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Reading

BUNDY HABYMAN

Wadsworth



1885.

ILLUSTRATED CATALOGUE

AND

PRICE-LIST

OF THE

A. A. GRIFFING IRON CO.

SOLE MANUFACTURERS OF

BUNDY PATENT DIRECT AND INDIRECT RADIATORS,

FOR HEATING ALL CLASSES OF BUILDINGS BY STEAM OR HOT WATER.

OFFICE,

453 COMMUNIPAW AVENUE, JERSEY CITY, N. J.

THOS. H. WILLIAMS, *President.*


S. D. TOMPKINS, *Treasurer.*

ANDREW CLERK, *Vice-President.*

J. L. OGDEN, JR., *Secretary.*

JOHN N. MATLOCK,
Mechanical Engineer and General Superintendent.

INTRODUCTORY.

N presenting our new Catalogue to the trade, we believe that we make the best Radiator for all purposes, as a Direct or Indirect Radiator, that is in use anywhere. Three-fourths of all the Direct Radiators set up in New York City during the past few years, have been the BUNDY. The universal satisfaction wherever used, and the rapidly increasing demand for them are the best evidences of their superiority. Anyone familiar with the construction of Radiators will at once recognize its superior qualifications in meeting the requirements of the trade in *adaptability, efficiency, economy, and durability.*

We have about 4,500,000 feet of heating surface of the BUNDY in use. These Radiators are equally adapted to high or low pressure steam, each one being tested to a pressure of 100 pounds, and if required, 200 pounds to the square inch.

It is the most *effective* Radiator in the market and certainly excels all others in appearance.

Note a few of its advantages. Each loop is screwed independently into the base by a single connection; consequently, the joint is not affected by unequal expansion or contraction; the loops being vertical no accumulation of water can occur, insuring a positive free circulation of steam. It is not liable to injury from rust or freezing. It can be shaped to fit almost any place, and occupy from 15 to 25 per cent. less space than any other of equal heating surface. There are no corrugated or uneven surfaces to retain dust and, therefore, it is easily kept clean. It has no packing of any description and, unlike others, will not leak from unequal expansion or contraction. It excels all others in simplicity of construction and economy in handling. To change the height of a Radiator, or replace a loop, involves trifling expense or delay, and can be shipped "*knocked down.*"

It may be interesting to the trade to know something of our facilities for manufacturing the BUNDY and other Radiators. By past experience we have found that the most of our orders as well as those wanted the quickest, come at the time of year when all manufacturers are the busiest. To meet these requirements of the trade, we must be able to turn out the bulk of a year's production in about three months, and must have four times the capacity for filling orders in the fall than would

are required if the most of the orders could be made up during the dull season. There are so many different sizes in widths, lengths, and heights of the BUNDY in use, that a part and sometimes the entire order for Radiators must be made to order; as is often the case, the different sizes required are not determined on until the building to be heated is ready to receive the Radiators; therefore, to meet these emergencies we have enlarged our works and increased our facilities for manufacturing, until we have a capacity at our Jersey City works for turning out 15,000 feet of heating surface per day. Our foundry floor is second in extent to but one in the State of New Jersey, with a core-room, machine shop, store-room, and other buildings necessary to carry on our large and increasing business correspondingly large, and to-day our works cover a plot of ground four acres in extent. We use only the *finest grades of iron*, the *newest machinery*, and the *best skilled labor* that can be procured in the manufacture of our goods.

As all the principal shipping lines in the United States concentrate at this point, therefore our facilities for shipping to any place over any line or to any part of the world are unequalled.

There are many reasons why you should use the BUNDY RADIATOR.

FIRST—We can show a larger stock, a greater variety of styles and sizes than any other manufacturer; consequently, the best stock to select from.

SECOND—The BUNDY has been in continued use by the very best steam-heating concerns in this country for the past ten years, notwithstanding the increased competition of other Radiators, and we can refer to such patrons all over the United States and Canada who have been on our books the entire period.

THIRD—Our facilities are unequalled for producing Radiators in small or large quantities upon the shortest notice, being always prepared for any demands in our line.

FOURTH—Our prices are as low as well made Radiators can be sold, and selling for cash only, our patrons derive all the benefits arising from quick sales and small profits, with perfect satisfaction guaranteed.

Wm. H. Williams Pres

A. A. Griffing Iron Co.

ONE ROW BUNDY RADIATOR.



Fig. 1.

FIG. 1 represents the One Row Bundy Radiator, which is used instead of a three row vertical tube wrought iron Radiator, and is very superior for all kinds of work.

FORTY-TWO INCHES HIGH, ONE ROW OF LOOPS.

LIST OF RADIATORS WITH FLAT SURFACE LOOPS.					EXTENDED SURFACE LOOP	
EACH LOOP REPRESENTS 4½ FT. OF HEATING SURFACE.					as above Table.	
Width of all from Base to Top, 42 inches.					EACH LOOP REPRESENTS 4½ FT. OF HEATING SURFACE.	
Height of Radiator.	Number of Loops.	Length of Radiator.	Feet of Heating Surface.	Feet of Radiator with Loop Top or Flange for Malleable Top.	Feet of Heating Surface.	Price, with Loop Top or Flange for Malleable Top.
4 ft. 0 in.	3	12'	13½	87 31	13½	88 54
4 ft. 6 in.	4	16'	18	9 30	17	11 05
4 ft. 12 in.	5	20'	22½	12 31	21½	13 54
4 ft. 18 in.	6	24'	27	14 30	25½	16 52
4 ft. 24 in.	7	28'	31½	17 31	29	19 54
4 ft. 30 in.	8	32'	36	19 30	33	22 50
4 ft. 36 in.	9	36'	40½	22 31	37	24 52
4 ft. 42 in.	10	40'	45	24 30	41	27 54
4 ft. 48 in.	11	44'	49½	26 31	45	29 50
4 ft. 54 in.	12	48'	54	28 30	49	31 52
4 ft. 60 in.	13	52'	58½	30 31	53	33 54
4 ft. 66 in.	14	56'	63	32 30	57	35 50
4 ft. 72 in.	15	60'	67½	34 31	61	37 52
4 ft. 78 in.	16	64'	72	36 30	65	39 54
4 ft. 84 in.	17	68'	76½	38 31	69	41 50
4 ft. 90 in.	18	72'	81	40 30	73	43 52
4 ft. 96 in.	19	76'	85½	42 31	77	45 54
4 ft. 102 in.	20	80'	90	44 30	81	47 50
4 ft. 108 in.	21	84'	94½	46 31	85	49 52
4 ft. 114 in.	22	88'	99	48 30	89	51 54
4 ft. 120 in.	23	92'	103½	50 31	93	53 50

All Radiator Goods Tapped 1" x ½" - Right Hand.

THIRTY-SIX INCHES HIGH, ONE ROW OF LOOPS.



LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE. Width of all One Row Bases, 6 $\frac{1}{4}$ inches.					EXTENDED SURFACE LOOP on same Bases. EACH LOOP REPRESENTS 3 $\frac{1}{2}$ FT. OF HEATING SURFACE.	
Shape of Radiators.	Number of Loops.	Length of Radiator.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
I X 3	3	13"	9	\$6 75	10 $\frac{1}{2}$	\$7 35
I X 4	4	16"	12	9 00	14	9 80
I X 5	5	19"	15	11 25	17 $\frac{1}{2}$	12 25
I X 6	6	22 $\frac{1}{2}$ "	18	13 50	21	14 70
I X 7	7	25"	21	15 75	24 $\frac{1}{2}$	17 15
I X 8	8	29 $\frac{1}{2}$ "	24	18 00	28	19 60
I X 9	9	32"	27	20 25	31 $\frac{1}{2}$	22 05
I X 10	10	35"	30	22 50	35	24 50
I X 11	11	39"	33	24 75	38 $\frac{1}{2}$	26 95
I X 12	12	41"	36	27 00	42	29 40
I X 13	13	45"	39	29 25	45 $\frac{1}{2}$	31 85
I X 14	14	48"	42	31 50	49	34 30
I X 15	15	51"	45	33 75	52 $\frac{1}{2}$	36 75
I X 16	16	54 $\frac{1}{2}$ "	48	36 00	56	39 20
I X 18	18	61 $\frac{1}{2}$ "	54	40 50	63	44 10
I X 20	20	67"	60	45 00	70	49 00
I X 22	22	73 $\frac{1}{2}$ "	66	49 50	77	53 90
I X 24	24	80"	72	54 00	84	58 80
I X 26	26	86"	78	58 50	91	63 70

THIRTY INCHES HIGH, ONE ROW OF LOOPS.

EACH LOOP REPRESENTS 2 $\frac{1}{2}$ FEET OF HEATING SURFACE					EACH LOOP REPRESENTS 3 FT. OF HEATING SURFACE.	
I X 3	3	13"	7 $\frac{1}{2}$	\$6 37	9	\$7 20
I X 4	4	16"	10	8 50	12	9 60
I X 5	5	19"	12 $\frac{1}{2}$	10 62	15	12 00
I X 6	6	22 $\frac{1}{2}$ "	15	12 75	18	14 40
I X 7	7	25"	17 $\frac{1}{2}$	14 45	21	16 80
I X 8	8	29 $\frac{1}{2}$ "	20	17 00	24	19 20
I X 9	9	32"	22 $\frac{1}{2}$	19 12	27	21 60
I X 10	10	35"	25	21 25	30	24 00
I X 11	11	39"	27 $\frac{1}{2}$	23 37	33	26 40
I X 12	12	41"	30	25 50	36	28 80
I X 13	13	45"	32 $\frac{1}{2}$	27 62	39	31 20
I X 14	14	48"	35	29 75	42	33 60
I X 15	15	51"	37 $\frac{1}{2}$	31 87	45	36 00
I X 16	16	54 $\frac{1}{2}$ "	40	34 00	48	40 40
I X 18	18	61 $\frac{1}{2}$ "	45	38 25	54	43 20
I X 20	20	67"	50	42 50	60	48 00
I X 26	26	87"	65	55 25	78	62 40

TWENTY-FOUR INCHES HIGH, ONE ROW OF LOOPS.

EACH LOOP REPRESENTS 2 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 2 $\frac{1}{2}$ FT. OF HEATING SURFACE.	
I X 3	3	13"	6	\$6 00	7	\$6 65
I X 4	4	16"	8	8 00	9 $\frac{1}{2}$	8 87
I X 5	5	19"	10	10 00	11 $\frac{1}{2}$	11 08
I X 6	6	22"	12	12 00	14	13 30
I X 7	7	25"	14	14 00	16 $\frac{1}{2}$	15 52
I X 8	8	29 $\frac{1}{2}$ "	16	16 00	18 $\frac{1}{2}$	17 73
I X 9	9	32"	18	18 00	21	19 95
I X 10	10	35"	20	20 00	23 $\frac{1}{2}$	22 16
I X 11	11	39"	22	22 00	25 $\frac{1}{2}$	24 38
I X 12	12	41"	24	24 00	28	26 60
I X 13	13	45"	26	26 00	30 $\frac{1}{2}$	28 82
I X 14	14	48"	28	28 00	32 $\frac{1}{2}$	31 03
I X 15	15	51"	30	30 00	35	33 25
I X 16	16	54 $\frac{1}{2}$ "	32	32 00	37 $\frac{1}{2}$	35 47
I X 18	18	61"	36	36 00	42	39 90
I X 20	20	67"	40	40 00	46 $\frac{1}{2}$	44 33
I X 26	26	87"	52	52 00	60 $\frac{1}{2}$	57 63

 All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand." 

 All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand." 

TWO ROW BUNDY RADIATOR.

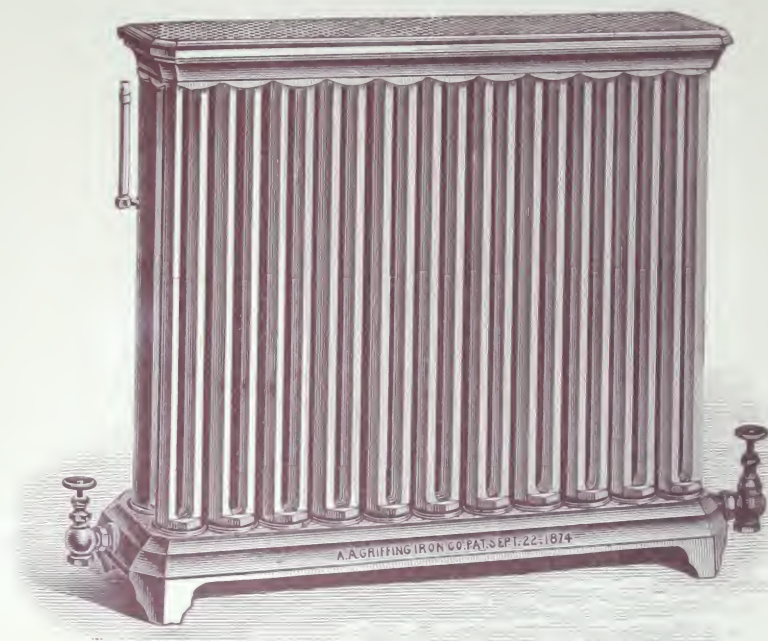


Fig. 2.

FIG. 2 represents our Two Row Bundy Radiator, with open base forming a loop. A very popular and superior Radiator for all systems of piping.

FORTY-TWO INCHES HIGH, TWO ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS $3\frac{1}{2}$ FEET OF HEATING SURFACE. Width of all Two Row Bases, $10\frac{1}{2}$ inches.					EXTENDED SURFACE LOOP on same Bases. EACH LOOP REPRESENTS $4\frac{1}{2}$ FT. OF HEATING SURFACE.	
Shape of Radiators.	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
2 X 3	6	13"	21	\$14 70	25 $\frac{1}{2}$	\$16 57
2 X 4	8	16 $\frac{1}{2}$ "	28	19 60	34	22 10
2 X 5	10	20"	35	24 50	42 $\frac{1}{2}$	27 62
2 X 6	12	23"	42	29 40	51	33 15
2 X 7	14	26"	49	34 30	59 $\frac{1}{2}$	38 68
2 X 8	16	29"	56	39 20	68	44 20
2 X 9	18	32"	63	44 10	76 $\frac{1}{2}$	49 73
2 X 10	20	35"	70	49 00	85	55 25
2 X 11	22	38 $\frac{1}{2}$ "	77	53 90	93 $\frac{1}{2}$	60 78
2 X 12	24	42"	84	58 80	102	66 30
2 X 13	26	45"	91	63 70	110 $\frac{1}{2}$	71 83
2 X 14	28	49"	98	68 60	119	77 35
2 X 15	30	51 $\frac{1}{2}$ "	105	73 50	127 $\frac{1}{2}$	82 88
2 X 16	32	54 $\frac{1}{2}$ "	112	78 40	136	89 40
2 X 20	40	67"	140	98 00	170	110 50
2 X 26	52	86 $\frac{1}{2}$ "	182	127 40	221	143 65

All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand."

THIRTY-SIX INCHES HIGH, TWO ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE. Width of all Two Row Bases, 10 1/2 inches.					EXTENDED SURFACE LOOP or some Bases. EACH LOOP REPRESENTS 3 1/2 FT. OF HEATING SURFACE	
Shape of Radiators	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
2 X 3	6	13"	18	\$13 50	21	\$14 70
2 X 4	8	16 1/2"	24	18 00	28	19 60
2 X 5	10	20"	30	22 50	35	24 50
2 X 6	12	23"	36	27 00	42	29 40
2 X 7	14	26"	42	31 50	49	34 30
2 X 8	16	29"	48	36 00	56	39 20
2 X 9	18	32"	54	40 50	63	44 10
2 X 10	20	35"	60	45 00	70	49 00
2 X 11	22	38 1/2"	66	49 50	77	53 90
2 X 12	24	42"	72	54 00	84	58 80
2 X 13	26	45"	78	58 50	91	63 70
2 X 14	28	49"	84	63 00	98	68 60
2 X 15	30	51 1/2"	90	67 50	105	73 50
2 X 16	32	54"	96	72 00	112	78 40
2 X 20	40	67"	120	90 00	140	98 00
2 X 24	48	73"	132	99 00	154	107 80
2 X 24	48	80"	144	108 00	168	117 60
2 X 26	52	86 1/2"	150	117 00	182	127 40

THIRTY INCHES HIGH, TWO ROWS OF LOOPS.

EACH LOOP REPRESENTS 2 1/2 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 3 FT. OF HEATING SURFACE.	
Shape of Radiators	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
2 X 3	6	13"	15	\$12 75	18	\$14 40
2 X 4	8	16 1/2"	20	17 00	24	19 20
2 X 5	10	20"	25	21 25	30	24 00
2 X 6	12	23"	30	25 50	36	28 80
2 X 7	14	26"	35	30 75	42	33 60
2 X 8	16	29"	40	34 00	48	38 40
2 X 9	18	32"	45	38 25	54	43 20
2 X 10	20	35"	50	42 50	60	48 00
2 X 11	22	38 1/2"	55	46 75	66	52 80
2 X 12	24	42"	60	51 00	72	57 60
2 X 13	26	45"	65	55 25	78	62 40
2 X 14	28	49"	70	59 50	84	67 20
2 X 15	30	51 1/2"	75	63 75	90	72 00
2 X 16	32	54"	80	68 00	96	76 80
2 X 20	40	67"	100	85 00	120	96 00
2 X 26	52	86 1/2"	130	110 50	155	124 80

TWENTY-FOUR INCHES HIGH, TWO ROWS OF LOOPS.

EACH LOOP REPRESENTS 2 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 2 1/2 FT. OF HEATING SURFACE.	
Shape of Radiators	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
2 X 3	6	13"	12	\$12 00	14	\$15 30
2 X 4	8	16 1/2"	16	16 00	18 1/2	17 75
2 X 5	10	20"	20	20 00	23 1/2	22 17
2 X 6	12	23"	24	24 00	28 1/2	26 60
2 X 7	14	26"	28	28 00	33 1/2	31 03
2 X 8	16	29"	32	32 00	37 1/2	35 46
2 X 9	18	32"	36	36 00	42	39 90
2 X 10	20	35"	40	40 00	46 1/2	44 33
2 X 11	22	38 1/2"	44	44 00	51 1/2	48 77
2 X 12	24	42"	48	48 00	56	53 20
2 X 13	26	45"	52	52 00	60 1/2	57 63
2 X 14	28	49"	56	56 00	65 1/2	62 07
2 X 15	30	51 1/2"	60	60 00	70	66 50
2 X 16	32	54"	64	64 00	74 1/2	70 93
2 X 20	40	67"	80	80 00	92 1/2	88 66
2 X 26	52	86 1/2"	104	104 00	121 1/2	111 27

128" All Regular Goods Tapped 1" X 1/4" - Right Hand - 128"

128" All Regular Goods Tapped 1" X 1/4" - Right Hand - 128"

THREE ROW BUNDY RADIATOR.



Fig. 3.

FIG. 3 represents our Three Row Bundy Radiator, which has no equivalent in width in any other vertical tube Radiator on the market. This is very superior where a large Radiator is required, or space is limited.

FORTY-TWO INCHES HIGH, THREE ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS $3\frac{1}{2}$ FEET OF HEATING SURFACE. Width of all Three Row Bases, 14 inches.					EXTENDED SURFACE LOOP on same Bases. EACH LOOP REPRESENTS $4\frac{1}{4}$ FT. OF HEATING SURFACE.	
Shape of Radiators.	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
3 X 3	9	13"	31½	\$22 05	38½	\$24 86
3 X 4	12	17"	42	29 40	51	33 15
3 X 5	15	19"	52½	36 75	63½	41 38
3 X 6	18	23"	63	44 10	76½	49 73
3 X 7	21	26"	73½	51 45	89½	58 02
3 X 8	24	29"	84	58 80	102	66 30
3 X 9	27	32"	94½	66 15	114½	74 59
3 X 10	30	36"	105	73 50	127½	82 88
3 X 11	33	39"	115½	80 85	140½	91 17
3 X 12	36	42"	126	88 20	153	99 45
3 X 13	39	46"	136½	95 55	165½	107 73
3 X 15	45	52"	157½	110 25	191½	124 32

All Regular Goods Tapped $1" \times \frac{3}{4}"$ "Right Hand."

THIRTY-SIX INCHES HIGH, THREE ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE. Width of all Three Row Bases, 14 inches.					EXTENDED SURFACE LOOP on same Bases. EACH LOOP REPRESENTS 3½ FT. OF HEATING SURFACE	
Shape of Radiators.	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
3 X 3	9	13"	27	\$20 25	31½	\$22 05
3 X 4	12	16½"	36	27 00	42	29 40
3 X 5	15	19"	45	33 75	52½	36 75
3 X 6	18	23"	54	40 50	63	44 10
3 X 7	21	26"	63	47 25	73½	51 45
3 X 8	24	29"	72	54 00	84	58 80
3 X 9	27	32"	81	60 75	94½	66 15
3 X 10	30	36"	90	67 50	105	73 50
3 X 11	33	39"	99	74 25	115½	80 85
3 X 12	36	42"	108	81 00	126	88 20
3 X 13	39	46"	117	87 75	136½	95 55
3 X 15	45	52"	135	101 25	157½	110 25

THIRTY INCHES HIGH, THREE ROWS OF LOOPS.

EACH LOOP REPRESENTS 2½ FEET OF HEATING SURFACE					EACH LOOP REPRESENTS 3 FT. OF HEATING SURFACE.	
3 X 3	9	13"	22½	\$19 12	27	\$21 60
3 X 4	12	17"	30	25 50	36	28 80
3 X 5	15	19"	37½	31 87	45	35 20
3 X 6	18	23"	45	38 25	54	43 20
3 X 7	21	26"	52½	44 62	63	50 40
3 X 8	24	29"	60	51 00	72	57 60
3 X 9	27	32"	67½	57 37	81	64 80
3 X 10	30	36"	75	63 75	90	72 00
3 X 11	33	39"	82½	70 12	99	79 20
3 X 12	36	42"	90	76 50	108	86 40
3 X 13	39	46"	97½	82 87	117	93 60
3 X 15	45	52"	112½	95 62	135	108 00

TWENTY-FOUR INCHES HIGH, THREE ROWS OF LOOPS.

EACH LOOP REPRESENTS 2 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 2½ FT. OF HEATING SURFACE.	
3 X 3	9	13"	18	\$18 00	21	\$19 95
3 X 4	12	17"	24	24 00	28	26 60
3 X 5	15	19"	30	30 00	35	33 25
3 X 6	18	23"	36	36 00	42	39 90
3 X 7	21	26"	42	42 00	49	46 55
3 X 8	24	29"	48	48 00	56	53 20
3 X 9	27	32"	54	54 00	63	59 85
3 X 10	30	36"	60	60 00	70	66 50
3 X 11	33	39"	66	66 00	77	73 15
3 X 12	36	42"	72	72 00	84	79 80
3 X 13	39	46"	78	78 00	91	86 45
3 X 15	45	52"	90	90 00	105	99 75

All Regular Goods Tapped 1" X ¾" "Right Hand.

FOUR ROW BUNDY RADIATOR.



Fig. 4.

FIG. 4 represents our Four Row Bundy Radiator, which has no equivalent in width in any other vertical tube Radiator on the market, occupying 25 per cent. less space than any other Radiator with the same amount of heating space.

FORTY-TWO INCHES HIGH, FOUR ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS $1\frac{1}{2}$ FEET OF HEATING SURFACE. Width of all Four Row Radiators, 42 $\frac{1}{2}$ inches.					EXTENDED SURFACE LOOP on same flange. EACH LOOP REPRESENTS 4 $\frac{1}{2}$ FT. OF HEATING SURFACE.	
Shape of Radiators.	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
4 X 4	16	17 $\frac{1}{2}$	28	\$30 20	68	\$44 20
4 X 5	20	21 $\frac{1}{2}$	35	40 00	85	55 25
4 X 6	24	25 $\frac{1}{2}$	42	58 80	102	66 30
4 X 10	40	36 $\frac{1}{2}$	60	98 00	170	110 50
4 X 18	72	60 $\frac{1}{2}$	108	176 40	306	195 00
4 X 20	80	67 $\frac{1}{2}$	120	196 00	340	221 00
4 X 24	96	73 $\frac{1}{2}$	144	235 60	374	243 10
4 X 34	96	80	136	235 40	408	265 20

All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand."

THIRTY-SIX INCHES HIGH, FOUR ROWS OF LOOPS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS. EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE. Width of all Four Row Bases, 18 $\frac{3}{4}$ inches.					EXTENDED SURFACE LOOP on same Bases. EACH LOOP REPRESENTS 3 $\frac{1}{2}$ FT. OF HEATING SURFACE.	
Shape of Radiators.	Number of Loops.	Length of Radiators.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
4 X 4	16	17"	48	\$36 00	56	\$39 20
4 X 5	20	19"	60	45 00	70	49 00
4 X 6	24	23"	72	54 00	84	58 80
4 X 10	40	36"	120	90 00	140	98 00
4 X 18	72	60 $\frac{1}{2}$ "	216	162 00	252	176 40
4 X 20	80	67 $\frac{1}{2}$ "	240	180 00	280	196 00
4 X 22	88	73 $\frac{1}{2}$ "	264	198 00	308	215 60
4 X 24	96	80"	288	216 00	336	235 20

THIRTY INCHES HIGH, FOUR ROWS OF LOOPS.

EACH LOOP REPRESENTS 2 $\frac{1}{2}$ FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 3 FT. OF HEATING SURFACE.	
4 X 4	16	17"	40	\$34 00	48	\$38 40
4 X 5	20	19"	50	42 50	60	48 00
4 X 6	24	23"	60	51 00	72	57 60
4 X 10	40	36"	100	85 00	120	96 00
4 X 18	72	60 $\frac{1}{2}$ "	180	153 00	216	172 80
4 X 20	80	67 $\frac{1}{2}$ "	200	170 00	240	192 00
4 X 22	88	73 $\frac{1}{2}$ "	220	187 00	264	212 20
4 X 24	96	80"	240	204 00	288	230 40

TWENTY-FOUR INCHES HIGH, FOUR ROWS OF LOOPS.

EACH LOOP REPRESENTS 2 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS 2 $\frac{1}{2}$ FT. OF HEATING SURFACE.	
4 X 4	16	17"	32	\$32 00	37 $\frac{1}{2}$	\$35 47
4 X 5	20	19"	40	40 00	46 $\frac{2}{3}$	44 35
4 X 6	24	23"	48	48 00	56	53 20
4 X 10	40	36"	80	80 00	93 $\frac{1}{2}$	88 67
4 X 18	72	60 $\frac{1}{2}$ "	144	144 00	168	159 60
4 X 20	80	67 $\frac{1}{2}$ "	160	160 00	186 $\frac{2}{3}$	177 35
4 X 22	88	73 $\frac{1}{2}$ "	176	176 00	205 $\frac{1}{2}$	195 06
4 X 24	96	80"	192	192 00	224	212 80

We have patterns of Radiators the following heights: —

18"	20 $\frac{1}{2}$ "	24 $\frac{3}{4}$ "	27 $\frac{3}{4}$ "	31"	34 $\frac{3}{4}$ "
19 $\frac{1}{4}$ "	21 $\frac{3}{4}$ "	26"	29"	21 $\frac{1}{2}$ "	36"
19 $\frac{3}{4}$ "	24"	26 $\frac{3}{4}$ "	30"	33 $\frac{1}{2}$ "	42"

All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand."

BUNDY CIRCULAR RADIATOR.



Fig. 5.

FIG. 5 represents the Bundy Circular Radiator. The heating surface of this Radiator is evenly distributed nearest the outer edge of the base, allowing free passage for air through the opening in the base. The large connections between the loops and base of these Radiators give free circulation under any steam pressure and make it superior to any other Circular Radiator on the market.

FORTY-TWO INCHES HIGH.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS.				EXTENDED SURFACE LOOP on same Bases.	
EACH LOOP REPRESENTS $3\frac{1}{2}$ FEET OF HEATING SURFACE.				EACH LOOP REPRESENTS $4\frac{1}{2}$ FT. OF HEATING SURFACE.	
Number of Loops.	Outside Diameter of Base.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
10	16"	35	\$24 50	42 $\frac{1}{2}$	\$27 63
15	19 $\frac{1}{4}$ "	52 $\frac{1}{2}$	36 75	63 $\frac{3}{4}$	41 43
20	21 $\frac{1}{2}$ "	70	49 00	85	55 25
22	21 $\frac{1}{8}$ "	77	53 90	93 $\frac{1}{2}$	60 78
26	24 $\frac{3}{4}$ "	91	63 70	110 $\frac{1}{2}$	71 83
31	27 $\frac{3}{4}$ "	108 $\frac{1}{2}$	75 95	131 $\frac{3}{4}$	85 63
50	30 $\frac{3}{4}$ "	175	122 50	212 $\frac{1}{2}$	138 13
72	37 $\frac{3}{4}$ "	252	176 40	306	198 90

THIRTY-SIX INCHES HIGH.

EACH LOOP REPRESENTS 3 FT. OF HEATING SURFACE.				EACH LOOP REPRESENTS $3\frac{1}{2}$ FT. OF HEATING SURFACE.	
Number of Loops.	Outside Diameter of Base.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
10	16"	30	\$22 50	35	\$24 50
15	19 $\frac{1}{4}$ "	45	33 75	52 $\frac{1}{2}$	36 75
20	21 $\frac{1}{2}$ "	60	45 00	70	49 00
22	21 $\frac{1}{8}$ "	66	49 50	77	53 90
26	24 $\frac{3}{4}$ "	78	58 50	91	63 70
31	27 $\frac{3}{4}$ "	93	69 75	108 $\frac{1}{2}$	75 95
50	30 $\frac{3}{4}$ "	150	112 50	175	122 50
72	37 $\frac{3}{4}$ "	216	162 00	252	176 40

All Regular Goods Tapped 1" X $\frac{3}{4}$ " "Right Hand."

LARGE SIZE BUNDY CIRCULAR RADIATOR.

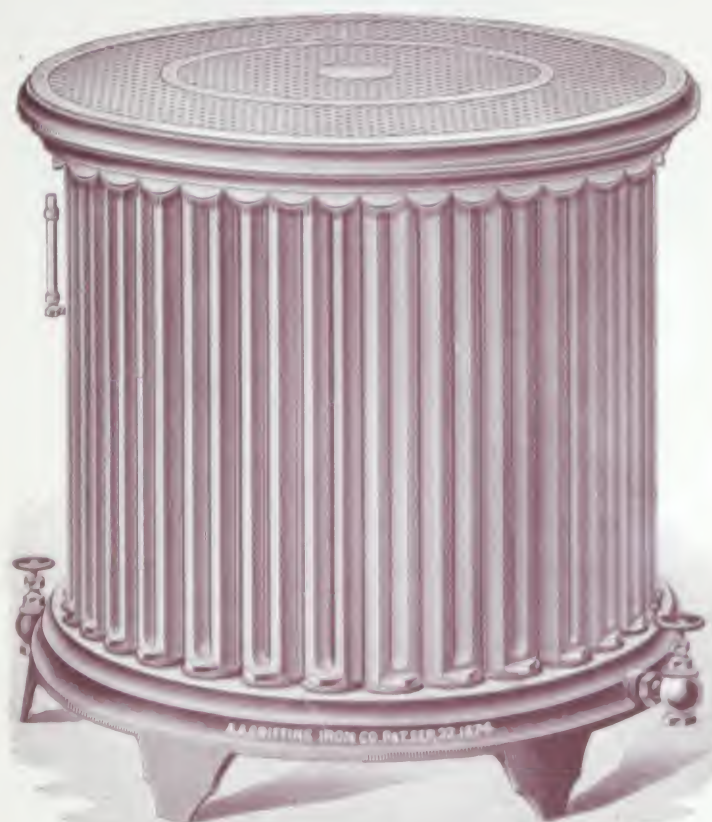


Fig. 6.

FIG. 6 represents a Large Size Bundy Circular Radiator, used in Hotels, Railroad Depots, Warehouses and other large buildings, and can be set up with 36 inch or 42 inch loops.

SEE PRICE-LIST, PAGE 12

BUNDY COLUMN RADIATOR.



Fig. 7.

FIG. 7 represents the Bundy Column Radiator, in halves to encircle columns. This popular Radiator has all the advantages claimed in our Circular Radiator, and is made to encircle columns up to 17 inches in diameter.

FORTY-TWO INCHES HIGH, IN HALVES TO ENCIRCLE COLUMNS.

LIST OF RADIATORS WITH PLAIN SURFACE LOOPS.					EXTENDED SURFACE LOOP on same Bases.	
EACH LOOP REPRESENTS $3\frac{1}{2}$ FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS $4\frac{1}{2}$ FT. OF HEATING SURFACE.	
Number of Loops.	Outside Diameter of Base.	Inside Diameter of Base.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
26	26 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	91	\$71 23	110 $\frac{1}{2}$	\$81 03
34	30"	13 $\frac{1}{2}$ "	119	93 22	144 $\frac{1}{2}$	105 97
50	36"	19 $\frac{1}{2}$ "	175	137 08	212 $\frac{1}{2}$	155 83

THIRTY-SIX INCHES HIGH, IN HALVES TO ENCIRCLE COLUMNS.

EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE.					EACH LOOP REPRESENTS $3\frac{3}{4}$ FT. OF HEATING SURFACE.	
Number of Loops.	Outside Diameter of Base.	Inside Diameter of Base.	Feet of Heating Surface.	Price, Plain, with Iron Top or Binder for Marble Top.	Feet of Heating Surface.	Price, with Iron Top or Binder for Marble Top.
26	26 $\frac{1}{2}$ "	9 $\frac{1}{2}$ "	78	\$65 00	91	\$71 28
34	30"	13 $\frac{1}{2}$ "	102	85 00	119	93 22
50	36"	19 $\frac{1}{2}$ "	150	125 00	175	137 08

All Regular Goods Tapped 1' \times $\frac{3}{4}$ " "Right Hand."

LARGE SIZE BUNDY COLUMN RADIATOR.

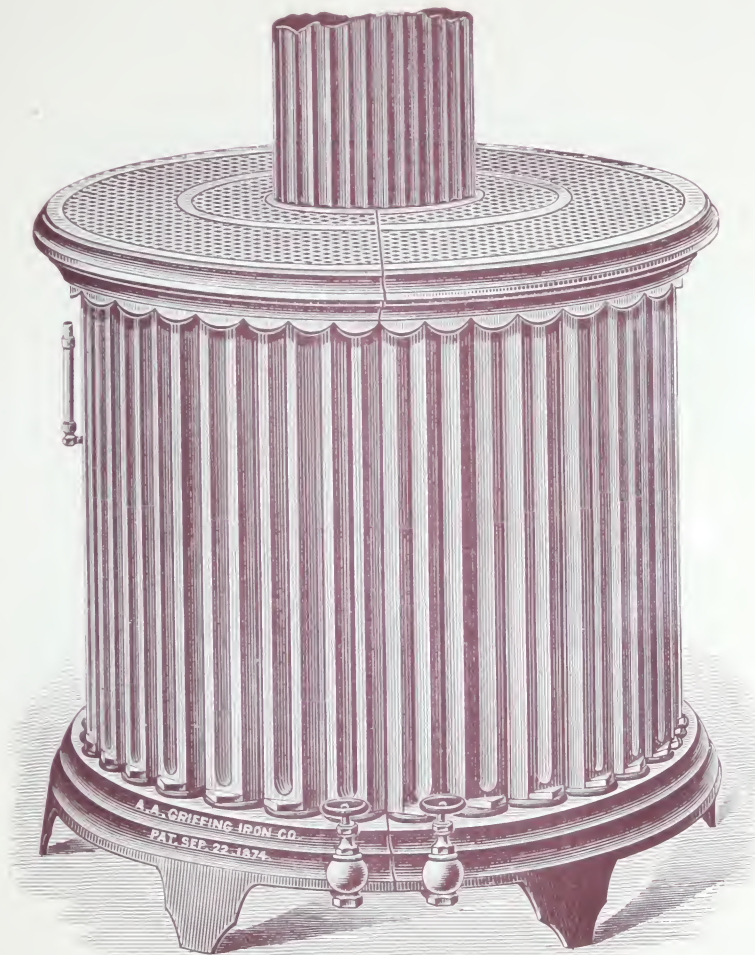


Fig. 8.

FIG. 8 represents a Large Size Bundy Column Radiator, used in Hotels, Railroad Depots, Warehouses and other large buildings.

SEE PRICE-LIST, PAGE 14.

CORNER RADIATOR.



Fig. 9.

FIG. 9 represents the Corner Radiator. This Radiator is intended for the corners of rooms when floor space is limited, and it is desirable to place the Radiators out of the way as much as possible.

BUNDY HOT CLOSET DINING-ROOM RADIATOR.

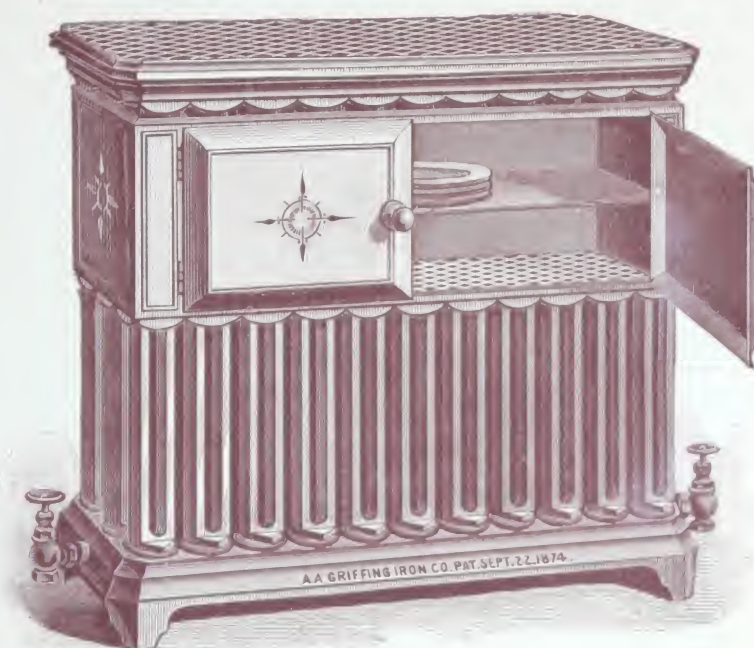


Fig. 10.

FIG. 10 represents the Bundy Hot Closet Dining-Room Radiator. By this form of construction we can furnish Radiators small enough for average dining-rooms. The heating surface is directly under the warming closet, giving them great advantages over all others, and does not interfere with any other patent. Radiators 36 inches high over all can be made with from 30 to 60 feet of heating surface in each. Warming Closets are $12\frac{1}{2}$ inches wide, 34 inches long, and 15 inches high.

PRICES QUOTED ON APPLICATION.

WINDOW RADIATOR.

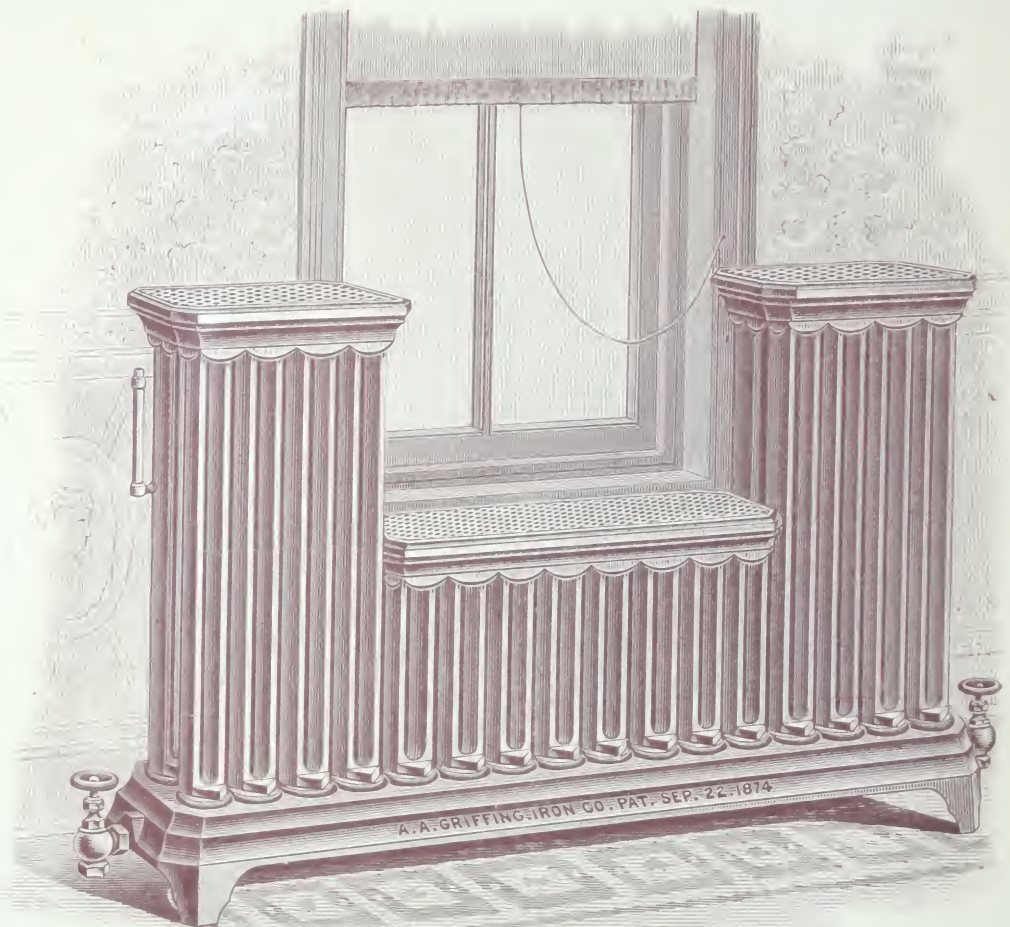


Fig. 11.

FIG. 11 represents our Window Radiator, which is very convenient where a large Radiator is required in front of a low window.

PRICES SAME AS FULL HEIGHT RADIATORS. NO ALLOWANCE FOR SHORT LOOPS.

BUNDY STAIRWAY RADIATOR.



FIG. 116.

PRICES SAME AS FULL HEIGHT RADIATORS. NO ALLOWANCE FOR SHORT LOGS.

THE BUNDY HORIZONTAL INDIRECT RADIATOR.

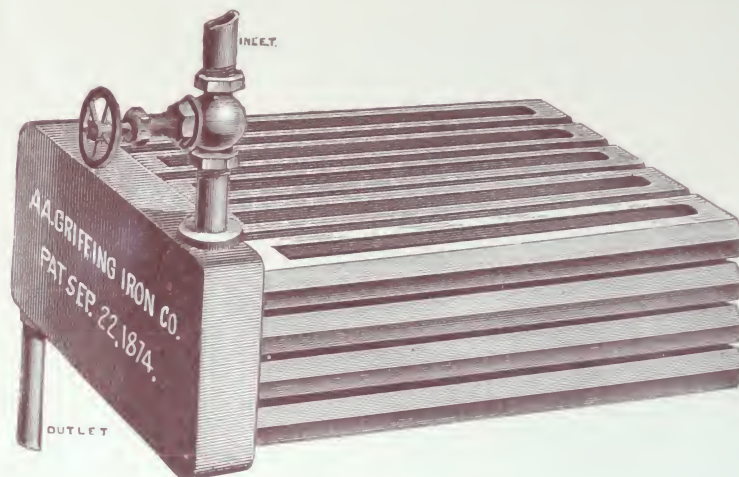


Fig. 12.

FIG. 12 represents the Bundy Horizontal Indirect Radiator. These Radiators are adapted to either high or low pressure steam, and are made with either the plain surface or the extended surface loop and occupy less space with the same amount of heating surface than any other; often a very important point in the economy of space and material used in enclosing the Radiator.

The Old Ladies' Home, 104th Street & 10th Avenue, New York, Brooklyn Savings Bank, Packer Institute, Brooklyn, are some of the buildings heated with these Radiators.

NOTE.—We make the following sizes, but if more or less surface is wanted in each Stack, they can be made any size required. The length can be varied by substituting shorter or longer loops.

LIST OF HORIZONTAL INDIRECT RADIATORS							EXTENDED SURFACE LOOP	
EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE.							on same Bases.	
Shape of Radiators	Number of Loops.	Width of Radiators.	Depth of Radiators.	Length of Radiators.	Feet of Heating Surface.	Price, with Plain Loops.	Feet of Heating Surface with Improved Loops	Price, with Extended Surface Loops.
3×3	9	10"	9"	33"	27	\$18 23	33 ³ / ₄	\$20 25
3×4	12	15"	9"	33"	36	24 30	45	27 00
4×3	12	12"	12"	33"	36	24 30	45	27 00
4×4	16	15"	12"	33"	48	32 40	60	36 00
4×5	20	17"	12"	33"	60	40 50	75	45 00
4×6	24	20"	12"	33"	72	48 60	90	54 00
4×7	28	22"	12"	33"	84	56 70	105	63 00
4×8	32	25"	12"	33"	96	64 80	120	72 00
4×9	36	28"	12"	33"	108	72 90	135	81 00

All Regular Goods Tapped 1" × ³/₄" "Right Hand,"

BUNDY ANGLE INDIRECT RADIATOR.

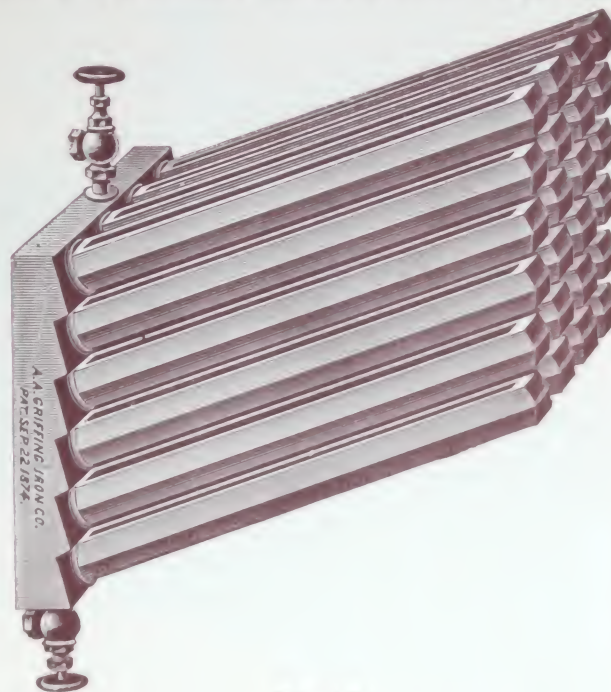


Fig. 13.

FIG. 13 represents our Bundy Angle Indirect Radiator, with loops set at an angle of 22 degrees, securing a perfect circulation of steam, and return of condensation. The loops are placed indirectly over each other, evenly dividing up the air passing through the Radiator, and utilizing the heating surface of the loops. These Radiators are adapted to either high or low pressure steam, and are made with either the plain surface loop or the extended surface loop, and the length can be varied by substituting shorter or longer loops.

These Radiators are in use in the Lehigh University, Pa.; the High School, Lawrenceville, N. J.; at the Hudson River State Asylum, Poughkeepsie, N. Y., and give entire satisfaction; with permission, we publish the following testimonial:—

HUDSON RIVER STATE ASYLUM,
POUGHKEEPSIE, N. Y., February 26, 1883.

This is to certify that "the Institution" has used the Bundy Indirect Angle Radiators in the centre building for the last four or five years, and they give satisfaction in every way as an indirect heater, and would recommend them to those requiring steam heat for buildings.

WILLIAM C. ATKINSON, Chief Engineer.

LIST OF INDIRECT ANGLE RADIATORS.

EACH LOOP REPRESENTS 3 FEET OF HEATING SURFACE

Shape of Radiators	Number of Loops	Width of Radiators	Depth of Radiators	Length of Radiators	Feet of Heating Surface	Price, with Plain Loops
3×3	9	10 ¹ / ₂ "	20 ¹ / ₂ "	33	27	\$15.90
3×4	12	13 ¹ / ₂ "	20 ¹ / ₂ "	33	36	25.20
4×4	16	13 ¹ / ₂ "	25	33	48	33.60
4×5	20	16 ¹ / ₂ "	25	33	60	42.00
4×6	24	20	25	33	72	50.40
5×5	25	16 ¹ / ₂ "	28	33	75	52.50
5×6	30	20	28	33	90	63.00
6×6	36	20	31	33	108	75.60

EXTENDED SURFACE LOOP

on same Base.
EACH LOOP REPRESENTS 3¹/₂ FT. OF HEATING SURFACE.

Feet of Heating Surface with Extended Loops	Price, with Extended Surface Loops
33 ¹ / ₂	\$20.93
45	27.90
60	37.80
75	46.80
90	55.80
103 ¹ / ₂	68.13
112 ¹ / ₂	80.75
133	95.70

BUNDY PIN ANGLE INDIRECT RADIATOR.

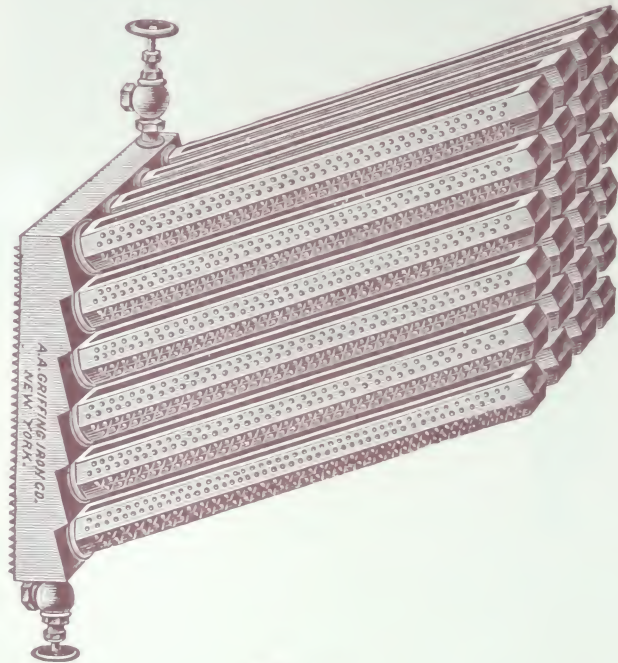


Fig. 14.

FIG. 14 represents our Pin Angle Indirect Radiator, giving 35 per cent. more heating surface in each Radiator than with the plain loops, when extended or more heating surface is required in the same space. These are usually made five loops deep, and two of Bundy's Pin Loops contain as much heating surface as one section of Gold's Pin Indirect Radiator. The length of these Radiators can be varied by substituting shorter or longer loops.

LIST OF PIN INDIRECT ANGLE RADIATORS.

EACH LOOP REPRESENTS 4 FEET OF HEATING SURFACE.

Shape of Radiators.	Number of Loops.	Width of Radiators.	Depth of Radiators.	Length of Radiators.	Feet of Heating Surface.	Price.
2 X 5	10	17"	17"	34'	40	\$24 00
3 X 3	9	10 $\frac{1}{2}$ "	20 $\frac{1}{2}$ "	34'	36	21 60
3 X 4	12	14"	20 $\frac{1}{2}$ "	34'	48	28 80
4 X 4	16	14"	25"	34'	64	38 40
4 X 5	20	17"	25"	34'	80	48 00
4 X 6	24	20 $\frac{1}{2}$ "	25"	34'	96	57 60

GOLD'S PIN INDIRECT RADIATOR.

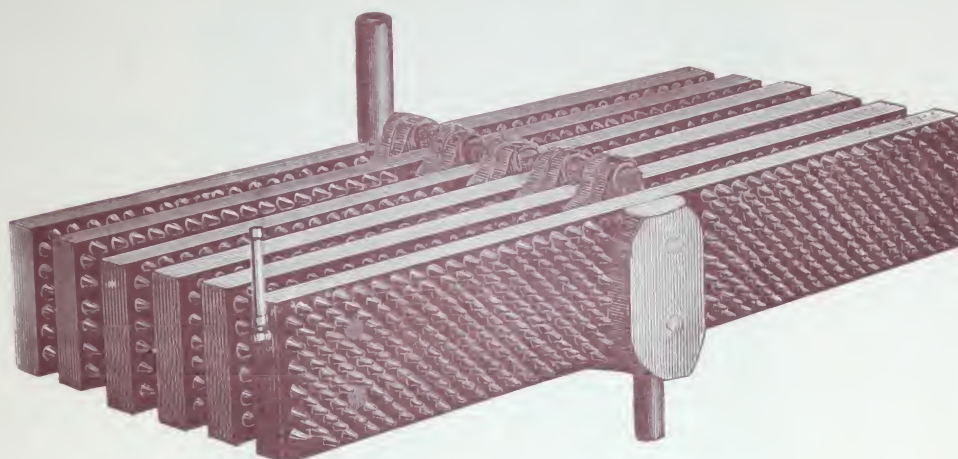


Fig. 15.

FIG. 15 represents the Gold's Pin Indirect Radiator, of standard sizes as manufactured by us and well known to the trade.

Each section being $40\frac{1}{2}$ inches long, $6\frac{1}{2}$ inches deep at ends, $10\frac{1}{2}$ inches deep over all at centre, $3\frac{1}{4}$ inches thick over all at centre, and containing 925 pins.

PRICES QUOTED ON APPLICATION.

BUNDY RADIATOR, WITH EXTENDED SURFACE LOOP.

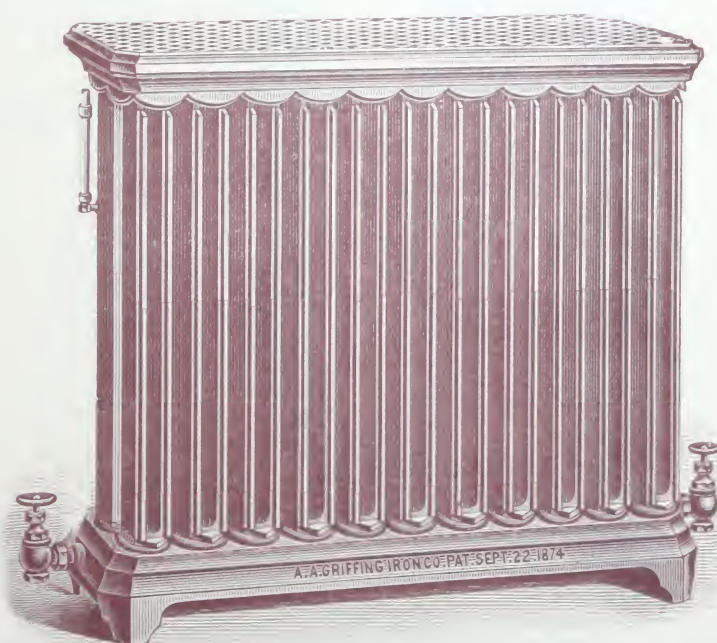


Fig. 16.

FIG. 16 represents a Bundy Radiator, with extended surface loops, which can be substituted for the plain loops in any Bundy Radiator, increasing the amount of heating surface about 25 per cent.

SEE PRICE-LISTS.

BUNDY RADIATOR LOOP.

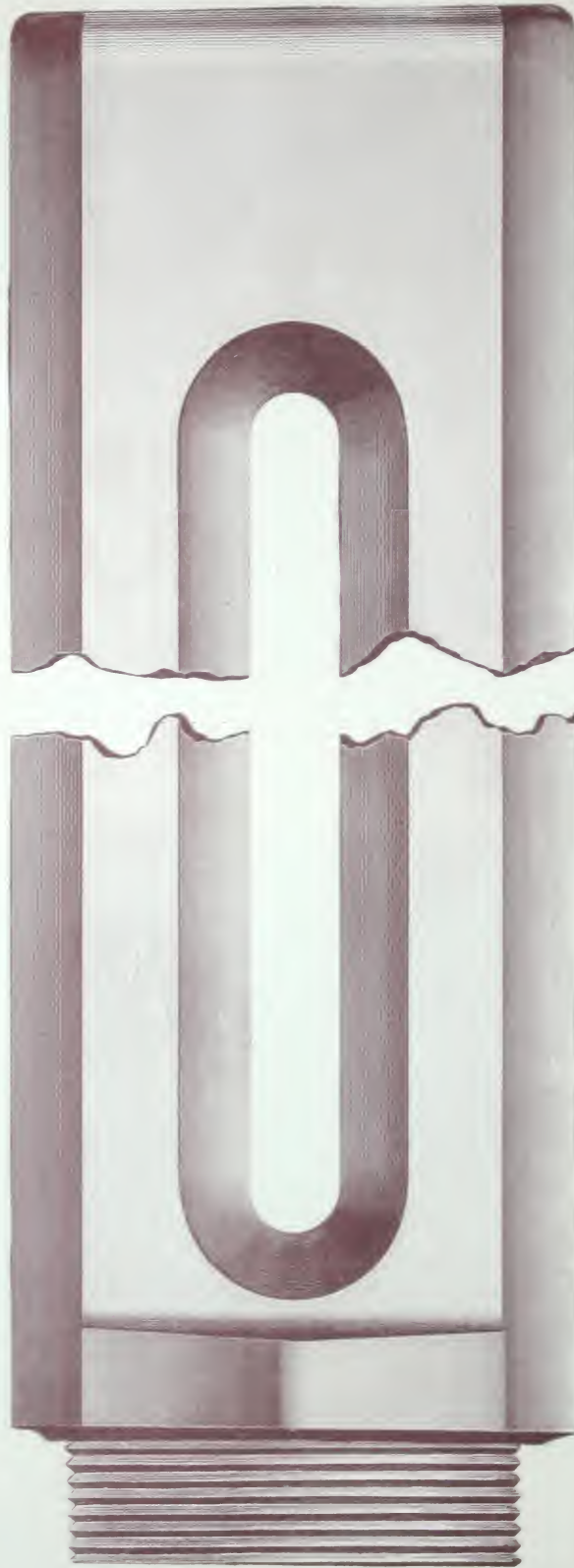


Fig. 17.

FIG. 17 represents the top and bottom, full size, of a Loop of our Bundy Patent Radiator

CROSS-SECTION BUNDY RADIATOR LOOP.

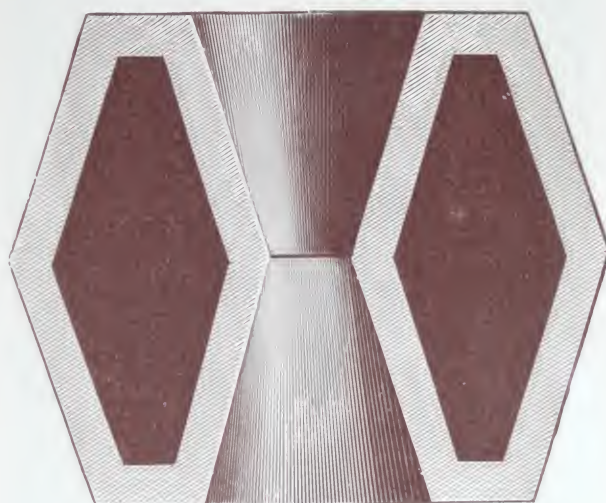


Fig. 18.

FIG. 18 represents a Cross-section, full size, of a Loop of our Bundy Patent Radiator.

SIZE OF BINDERS FOR MARBLE TOPS FOR BUNDY PATENT RADIATORS.

THE SLAB SHOULD PROJECT FROM $\frac{3}{4}$ INCH TO 1 INCH ALL AROUND.

Size.	Width	Length	Size	Width	Length	Size	Width	Length	Circul's Size	Diam.
1 X 3	4 $\frac{1}{4}$	12	2 X 3	8 $\frac{1}{4}$	12	3 X 3	12	12	10	15 $\frac{1}{2}$
1 X 4	4 $\frac{1}{4}$	15	2 X 4	8 $\frac{1}{4}$	15	3 X 4	12	15 $\frac{1}{4}$	15	17 $\frac{1}{2}$
1 X 5	4 $\frac{1}{4}$	18	2 X 5	8 $\frac{1}{4}$	18 $\frac{1}{4}$	3 X 5	12	18 $\frac{1}{4}$	20	19 $\frac{3}{4}$
1 X 6	4 $\frac{1}{4}$	23	2 X 6	8 $\frac{1}{4}$	21 $\frac{1}{4}$	3 X 6	12	22 $\frac{1}{4}$	26	22
1 X 7	4 $\frac{1}{4}$	24 $\frac{1}{2}$	2 X 7	8 $\frac{1}{4}$	25	3 X 7	12	25 $\frac{1}{4}$	34	26
1 X 8	4 $\frac{1}{4}$	28 $\frac{1}{2}$	2 X 8	8 $\frac{1}{4}$	28	3 X 8	12	28 $\frac{1}{4}$	50	31
1 X 9	4 $\frac{1}{4}$	31	2 X 9	8 $\frac{1}{4}$	31 $\frac{1}{2}$	3 X 9	12	31 $\frac{1}{2}$	74	35
1 X 10	4 $\frac{1}{4}$	34	2 X 10	8 $\frac{1}{4}$	34 $\frac{1}{2}$	3 X 10	12	35		
1 X 11	4 $\frac{1}{4}$	37 $\frac{1}{4}$	2 X 11	8 $\frac{1}{4}$	37 $\frac{5}{8}$	3 X 11	12	38		
1 X 12	4 $\frac{1}{4}$	40 $\frac{1}{4}$	2 X 12	8 $\frac{1}{4}$	41	3 X 12	12	41		
1 X 13	4 $\frac{1}{4}$	43 $\frac{1}{4}$	2 X 13	8 $\frac{1}{4}$	44 $\frac{1}{4}$	3 X 13	12	44 $\frac{1}{4}$		
1 X 14	4 $\frac{1}{4}$	47	2 X 15	8 $\frac{1}{4}$	50 $\frac{3}{4}$	3 X 15	12	50 $\frac{3}{4}$		
1 X 15	4 $\frac{1}{4}$	50	2 X 20	8 $\frac{1}{4}$	67					
1 X 16	4 $\frac{1}{4}$	53 $\frac{1}{2}$	2 X 26	8 $\frac{1}{4}$	85 $\frac{1}{2}$					
1 X 20	4 $\frac{1}{4}$	67								
1 X 26	4 $\frac{1}{4}$	85 $\frac{1}{2}$								

BUNDY EXTENDED SURFACE LOOP.

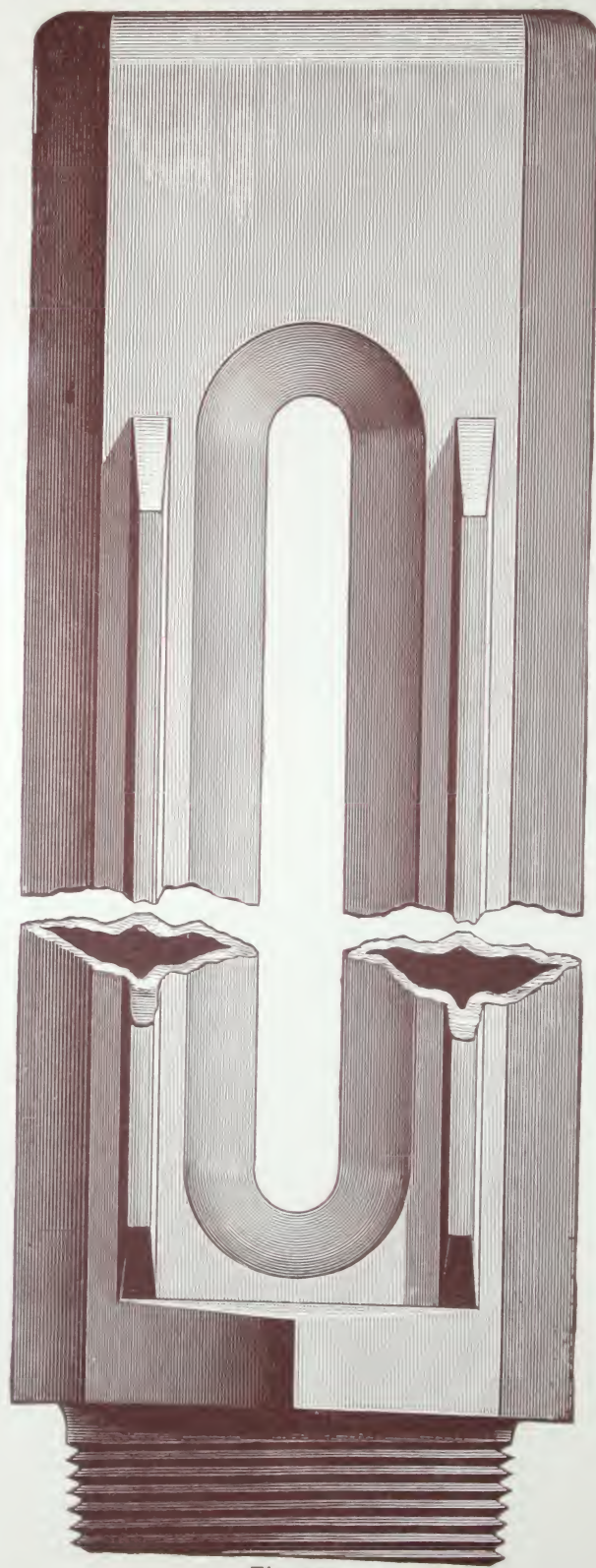


Fig. 19.

FIG. 19 represents the Top and Bottom, full size, of a Loop of our Bundy Patent Extended Surface Radiator.

BUNDY ENLARGED PLAIN SURFACE LOOP.

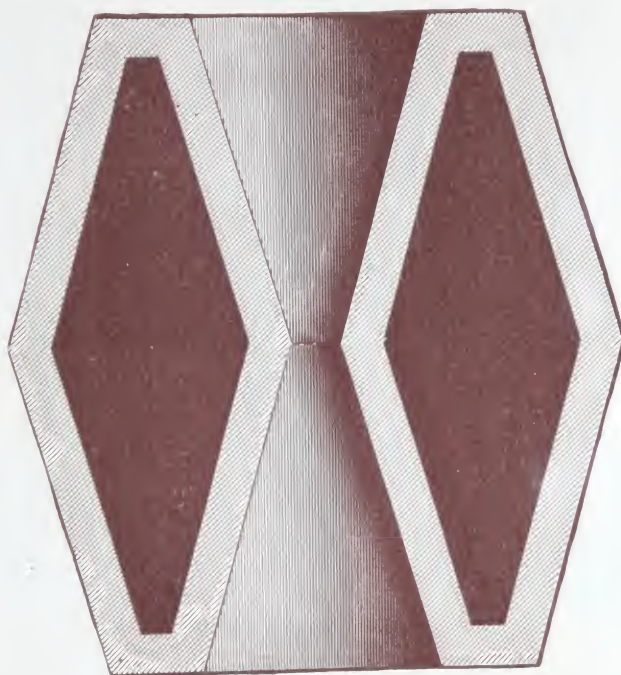


Fig. 19½.

FIG. 19½ represents our Enlarged Bundy Loop adapted to our regular Bundy Radiator Bases, giving $4\frac{1}{2}$ feet of plain surface to a loop for radiators 42 inches high, and $3\frac{1}{2}$ feet of plain surface to a loop for radiators 36 inches high.

SPECIAL PRICES QUOTED ON APPLICATION.

THE THOMPSON PATENT RADIATOR.

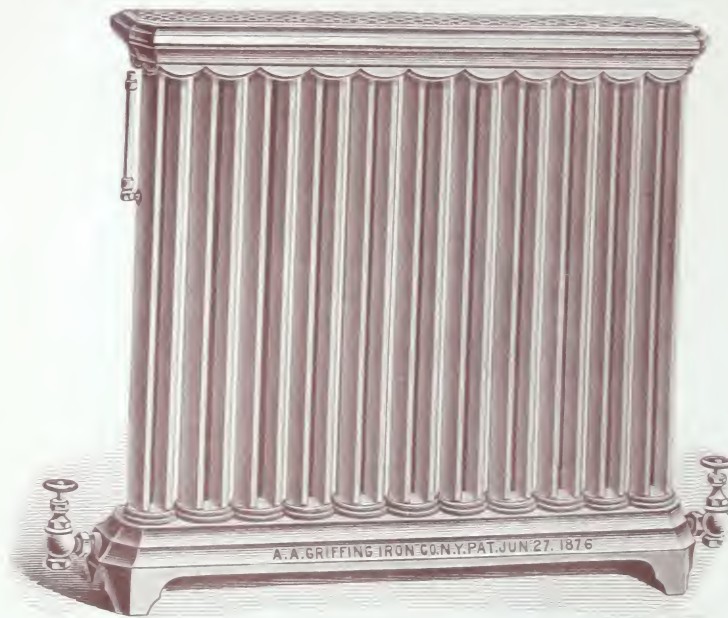


Fig. 20.

FIG. 20 represents the Thompson Patent Radiator of which we are the sole owners and manufacturers. With these Radiators each tube is screwed independently into the base; contains three feet of heating surface to the tube; is a good circulating Radiator, and has given satisfaction wherever in use. We make these the same sizes as the regular Bundy Radiators.

PRICES QUOTED ON APPLICATION.

THOMPSON RADIATOR LOOP.

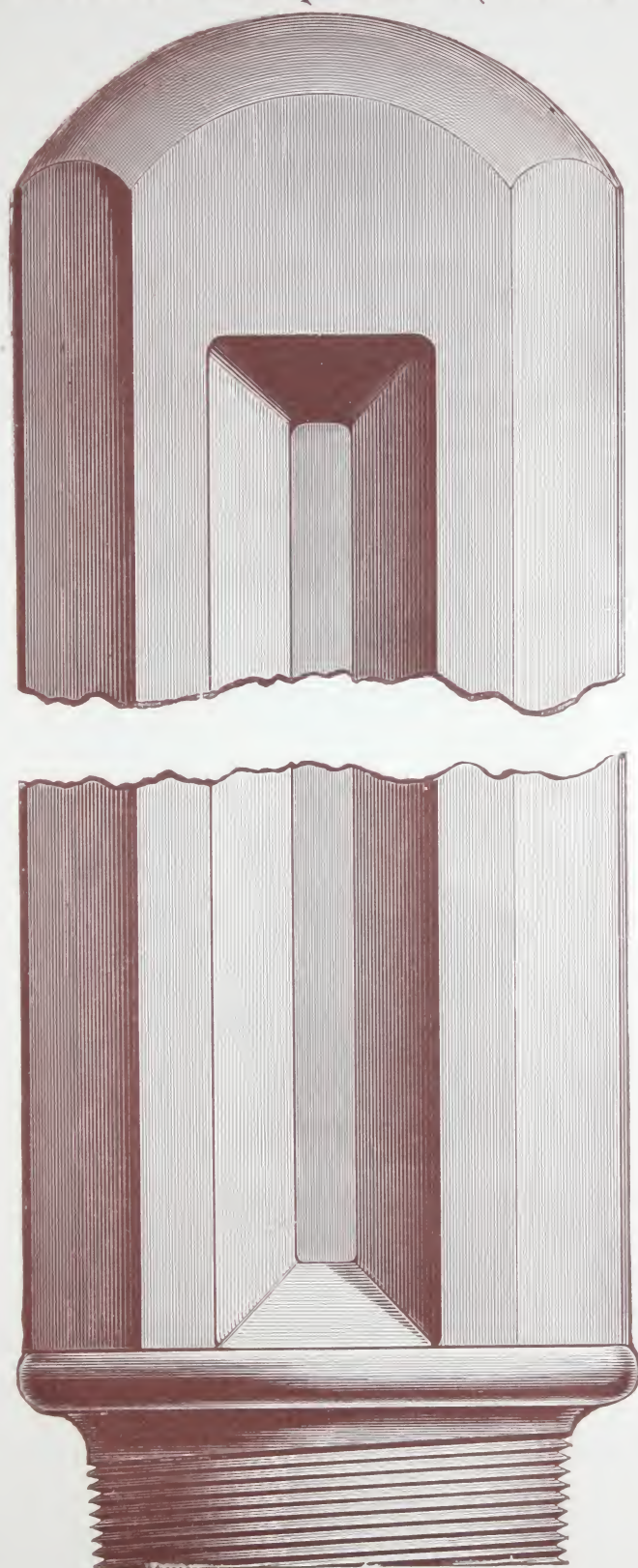


Fig. 21.

FIG. 21 represents the Top and Bottom, full size, of a Tube of our Thompson Patent Radiator.

CROSS-SECTION OF THOMPSON RADIATOR LOOP.

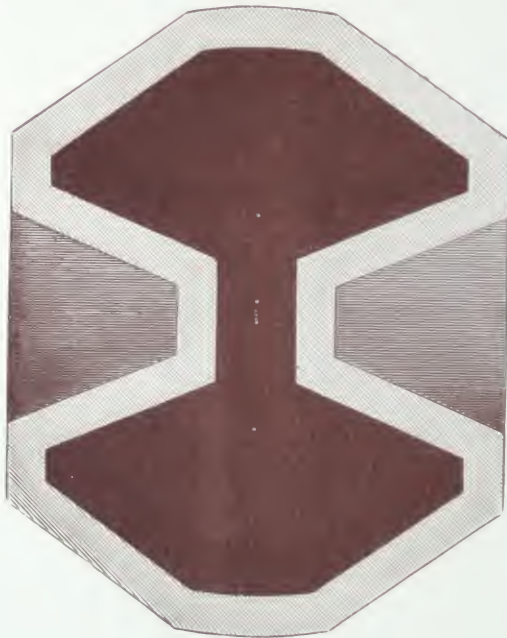


Fig. 22.

FIG. 22 represents a Cross-section, full size, of a Tube of our Thompson Patent Radiator.

GEOGHEGAN AUTOMATIC AIR VALVE IN BUNDY LOOP.

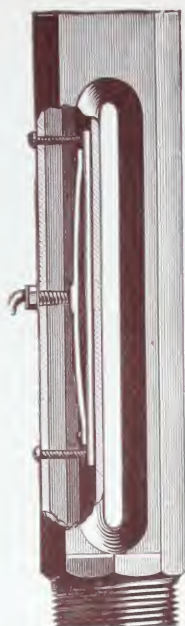


Fig. 23.

The necessity for an Automatic Air Valve upon each Steam Radiator, to make it effective at low pressure, is obvious to all who use them, and no heating work is complete without an efficient one.

FIG. 23 represents an air valve which while operating on the same principle as most made, has some special advantages that will appear by reference to the cut.

The placing of the operating parts within the tube of the Radiator, removes them entirely from damage by being broken off, from dust, or from careless playing with them, causing defective working of Radiator, cost of repairs, etc., and when once set properly will be in working order at all times.

This Air Valve will operate at all pressures equally well, and is furnished with union connection where drip pipes are used, and with nozzle where drips are not used. Price each, complete within the Radiator tubes, \$2.00. To any parties having our Radiator in use, who desire this valve, we will send a Radiator Tube with Air Valve complete. Any mechanic with a wrench can replace one of the tubes with the new one, and we will take in exchange the old one, for the price of the Valve and expressage.

DIRECTIONS FOR SETTING.

All Air Valves must be set when steam is on the work.

Screw nozzles into pipe openings tightly, forming seat on the valve; then back nozzle out until the merest vapor is felt after air is expelled, when Air Valve becomes in working order.

It is better to blow out whole work before setting Air Valves to remove sediment.

In case of stoppage of Air Valves, ease out nozzle until air current is felt.

PRICE, \$24.00 PER DOZEN.

BUNDY PATENT HOT WATER RADIATOR.



Fig. 24.

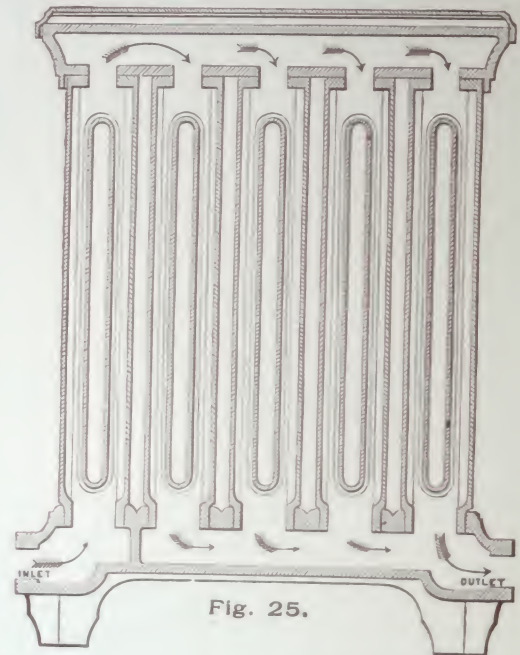


Fig. 25.

FIGS. 24 and 25 represent our Bundy Hot-Water Radiator constructed on the principle of our well-known Bundy Radiator which in appearance it resembles. Anyone familiar with hot water circulation will see the short distance that water has to travel in passing through this Radiator from the "Supply" to the "Return-pipe," the positive circulation, the great quantity of heating surface to a given floor space, neatness of appearance and its easy adaptation to the different methods of "piping" make it very superior to any horizontal slab or pipe-coil Radiator for hot water heating.

The supply-pipe connection can be made either with the lower or upper circulating-chamber and the return connection can be made with either end of the Radiator as the case may require.

These Radiators are tested at 100 lbs. pressure.

LIST OF HOT WATER RADIATORS WITH PLAIN SURFACE LOOPS.					EXTENDED SURFACE LOOP	
EACH LOOP REPRESENTS 3½ FT. OF HEATING SURFACE.					on same Bases.	
Width of One Row Bases, 6½ in. Width of Two Row Bases, 10½ in.					EACH LOOP REPRESENTS 4 FT. OF HEATING SURFACE.	
Shape of Radiator.	Number of Loops.	Length of Radiator.	Feet of Heating Surface.	Price, Plain.	Feet of Heating Surface.	Price.
1x5	5	10'	17½	\$15 75	20	\$17 00
1x6	6	22'	21	18 90	24	20 40
1x7	7	25	24½	22 05	28	23 80
1x8	8	29½	28	25 20	32	27 20
1x9	9	32	31½	28 35	36	30 60
1x10	10	35	35	31 50	40	34 00
1x11	11	39	38½	34 65	44	37 40
1x12	12	41	42	37 80	48	40 80
1x13	13	45	45½	40 95	52	44 20
1x15	15	51	52½	47 25	60	51 00
2x5	10	20'	35	31 50	40	34 00
2x6	12	23	42	37 80	48	40 80
2x7	14	26	49	44 10	56	47 60
2x8	16	29	56	50 40	64	54 40
2x9	18	32	63	56 70	72	61 20
2x10	20	35	70	63 00	80	68 00
2x11	22	38½	77	69 30	88	74 80
2x12	24	42	84	75 60	96	81 60
2x13	26	45	91	81 90	104	88 40
2x15	30	51½	105	94 50	120	102 00

BUNDY DIRECT INDIRECT RADIATOR.



Fig. 26.

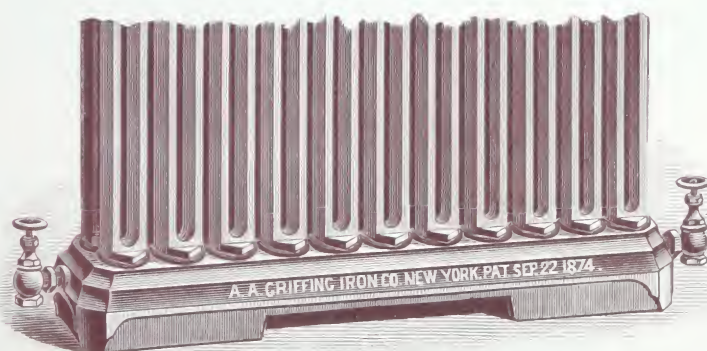
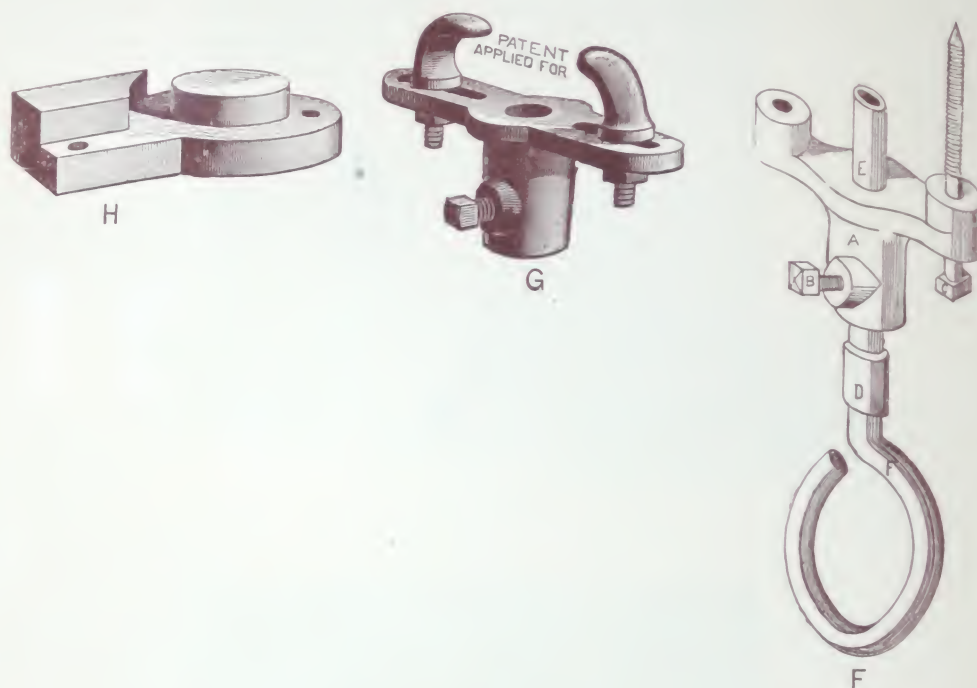


Fig. 27.

FIGS. 26 and 27 represent the Bundy Direct Indirect Radiator used extensively in large public buildings where direct heat as well as good circulation is required. As shown by the cut the base is made in form of a box fitting closely to floor all around, except an opening in back as shown in Fig. 27 which is fitted to a cold air chute from outside of wall. This Radiator as applied to the direct indirect system is meeting with universal favor among Architects and Steam Fitters. Among the many buildings now heated with this Radiator we give as reference : The Standard Oil Company's Building and The United Bank Building, of New York City.

The price of these Radiators is 25 cents per loop in advance of prices shown on pages 4 to 11.

BALL PIPE HANGER.



This Hanger consists of casting A, set screw B, lag screw C, $\frac{3}{8}$ socket D, $\frac{3}{8}$ nipple (any length) E, Ring of $\frac{3}{8}$ pipe F, casting G, for hanging to iron beams, casting H, for bending loops of $\frac{3}{8}$ pipe. Either A or G are put up before plastering is done. The Ring F is put on the pipe before it is screwed up, so as not to interfere with any fittings. The pipe is then raised up in place and the nipple and socket E and D are screwed down on F and set screw driven in, holding the pipe securely in position. The main can be raised or lowered by pushing up or down the nipple F, first loosening the set screw. We furnish the castings A, G and H, complete, and the balance of the hanger can be readily made of $\frac{3}{8}$ scrap pipe.

PRICE PER DOZEN,	FOR WOODEN BEAMS,	\$6.00.
"	"	"
"	IRON	"
		9.00.

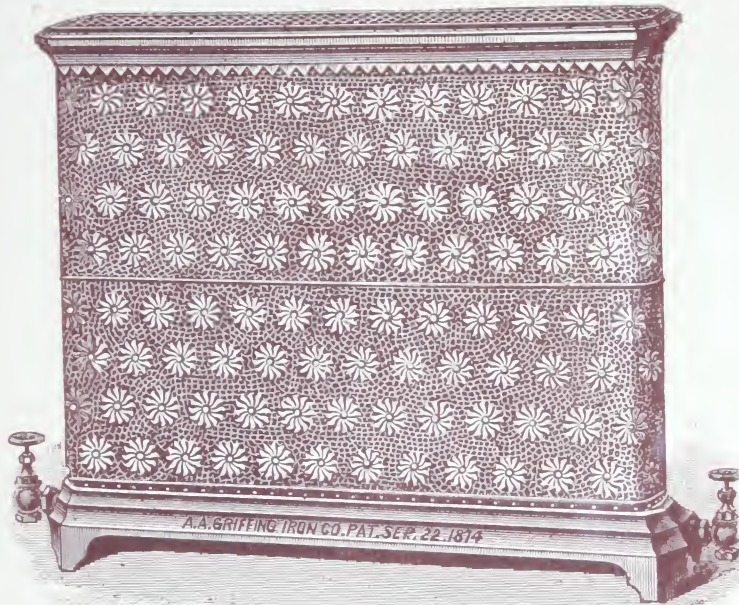
VERTICAL TUBE RADIATOR SCREENS.

POLISHED BRASS OR ANTIQUE FINISH.

These elegant Radiator Covers made any size to order, round, square or oblong. These attractive covers can be put on any Radiator in use, new or old, before or after setting. The chief objection to Steam Radiators for dwellings is overcome, and the Radiator made an attractive piece of furniture.



No. 1 Screen, Each \$10.50.



No. 6 Screen, Each, \$25.00



No. 2 Screen, Each, \$13.00.



No. 3 Screen, Each, \$16.50.



No. 5 Screen, Each, \$18.50.



No. 4 Screen, Each, \$14.50.

THE PRICES ON THIS PAGE ARE FOR PARTICULAR SIZED RADIATORS.

RADIATING SURFACE FOR HEATING BUILDINGS.

We are constantly in receipt of inquiries from parties wishing to heat the buildings by steam requesting that we give them an estimate as to the number of square feet of heating surface required to heat the rooms they designate; of course, in nearly all such instances, we being ignorant of the circumstances as regards the style of building to be heated, whether situated in an exposed or sheltered position, the amount of window surface, and other necessary features to be taken into consideration.

Not professing to be Steam-Heating Engineers ourselves, by permission we publish the following rules for estimating the heating surface required for cubical contents of space, under various circumstances, as given by W. J. BALDWIN, in his work entitled "Hints to Steam-Fitters," and which is considered authority by the leading Architects and Steam-Heating Engineers throughout the country.

"Divide the difference in temperature between that at which the room is to be kept, and the coldest outside atmosphere, by the difference between the temperature of the steam-pipes and that at which the room is to be kept, and the product will be the surface in square feet of plate or pipe surface to each square foot of glass, or its equivalent in wall surface." This gives about ONE square foot of radiating surface to each TWO square feet of glass for low-pressure steam. He also considers that from 7.5 to 10 square feet of ordinary outside wall cools as much air as a square foot of glass, or, say, one square foot of radiator to $1\frac{1}{2}$ square feet of outside wall. This does not provide for warming any outside air that may enter, and is seldom sufficient for ordinary practice. At least one-half more, or .75 of a square foot, is generally required.

With regard to the saving of heat by double glazing, General Meigs has pointed out that about one-third less heat is lost through two glasses placed with, say, one-fourth of an inch between them, than through a single glass; but from this we must not assume that one-third less radiating surface will do in such a room, as we must bear in mind that the radiating surface is proportioned according to all the circumstances—walls, ventilation, etc.—and that the heat saved is proportionate only to the number of square feet of radiating surface necessary to counteract a given window area. For instance, if a room required 75 square feet of radiating surface, although the windows had but 60 feet of glass surface, 10 square feet of radiating surface would be the reduction, according to Baldwin's value for single glass.

In the neighborhood of New York, deductions based on the direct radiating surface, compared to the cubic space, gives averages with steam-pipes of about as follows: Office rooms, one square foot of radiating surface to each 75 cubic feet of air space; stores, ONE square foot to 100 cubic feet; lofts and upper stories, ONE square foot to 125 to 150; churches and large auditoriums, one to 150 to 200.

The smaller a room is, the greater the percentage of outside wall and window to the cubic contents. A room $12 \times 12 \times 10 = 1,440$ cubic feet may be a corner room, and have two windows and two cold sides, and require about 25 square feet of surface. The next room to it may be $14' \times 9' \times 14' + 2' \times 10'$ high = 2,000 square feet, very nearly, with one cold wall and two windows, and, though it has double the cubic contents, will require no larger radiator than the corner room.

Hand says that experiment has proven that each square foot of glass cools 1.28 cubic feet of air from the temperature of the room to the outside temperature in one minute. According to this, if we have 25 square feet in a window, with 70 degrees in the room and zero outside, we cool 3,200 cubic feet of air 70° in an hour, to maintain which we must condense one nearly THREE pounds of steam.

Experiments again on radiators, such as are made in this country, give an average of three-tenths of a pound of steam condensed per foot to each square foot of surface, which would call for 10 square feet of radiator to the 25 square feet of window, making 40 of a square foot of radiator to each square foot of window-glass. This last rule gives a radiator rate in this country.

REFERENCES.

From the many thousands of BUNDY RADIATORS now in successful operation, we have selected the names of the following parties using them, to whom we confidently refer :

MAINE.**Brunswick.**

Brunswick Town Hall.

NEW HAMPSHIRE.**Concord.**

New Hampshire Insane Asylum.
Vermont Insane Asylum.

VERMONT.**Bennington.**

Valentine's, A. B., Building.
Newton's, W. D., Building.

MASSACHUSETTS.**Boston.**

Boston Gas Light Co.
Engine House No. 22.
Wright & Moody.

Cambridge.

County House.
Howard University.
"Record" Building.
Sherman, W. H.

Charlestown.

Hallerwell Granite Co.
Smith, Wm. B.

Chelsea.

Cheney, E. R.

Clinton.

Patterson, Rev. Fr.

Framingham.

B & A. R. R. Station.

Grafton.

Town Hall.

Leicester.

Biglow, W. H.
Sayent, J. B.
Snow, J. W.
Snow, T. S.
Watson, J.
Watson, H. L.

Malden.

Banett, O. S., residence.
Banett, Henry O., residence.
Fisher, Geo.
Staples, Edward, residence.

Newtonville.

Judkins, Mrs. M. F.

Northborough.

Chapin, E. W., & Co.

South Abington.

Whidden, H. F.

Southbridge.

Clemence, J. E.
Dressen, G. K.
Morse, E. T.

Spencer.

Beven's, Rev. T. D., School.

Uxbridge.

Capson, Henry
Hayward, E.
Mowrey, Mrs. L. M.
Taft, E. C.

Webster.

Platt, John.

West Boylston.

Holbrook, E. W.
Smith, G. D.

West Brookfield.

Blair, E. H., Post Office.

West Wrentham.

Davidson, Thomas, residence.

Whitinsville.

Trowbridge, C. E.

Worcester.

Buckingham, George B.
Church of Sacred Heart.
Convent School, Vernon Street.
Convent Sisters Notre Dame.
Daniels, F. H.
Earle, W. H.
Gorham, C. L. & Co., Piano Manufactory.
Goulding, F. P.
Hall's Block.
Harrington, G. H.
Kenerson, V. D.
Moen, P. L.
Pierce's Hotel.
Roy, B. S.
Safe Deposit and Trust Company.
Wesson, J. E.
Whittall, M. J., office.
Winslow, S., six houses.
Worcester Carpet Company, office.
Worcester Lunatic Hospital.
Young, H. A.

RHODE ISLAND.**Newport.**

Newport Gas Light Company.

Providence.

Masonic Hall.

CONNECTICUT.**Ansonia.**

Clemens F. & M. Co., office.
Gilpin, Joseph, residence.
Jackson, John, residence.
Slade, William, residence.
Schneller, Geo. W.

Birmingham.

Arnold, Geo. A., residence.
Atwater, Charles E., residence.
Atwater, W. E.
Bassett, T. S., two houses.
Birmingham, Connecticut, Foundry.
Birmmade, D. S.
Clark, D. N.
Derby Gas Co., office.
Derby Savings Bank.

Derby Silver Co., office.

DeForest, T.
Dorins, William E.
Downs, C. N.
Downs, S. A.
Emory, Mrs. P. M., Sterling Organ Co.
Flaherty, M.
Flanket, M. F.
Kennedy, Rev. P. M.
Krouse, L. & Co.
Lewis, Jr., E.
Loamer, L. L., Shelton & Co., shop.
Maltby, E. C., & Son.
Plumb, D. W.
Roberts, H. J.
Shelton, E. N.
Stearling, C. A.
Sterling Organ Co.
St. Mary's Church and Parsonage.
Wilkins, William, two houses.

Bridgeport.

St. John's Church.
Perry, W. H., Treasurer W. & W. S. M. Co.
Hillside Seminary.
F. Armstrong Manufacturing Co.
New High School Building.
New Fire Department Building.

Bristol.

Bristol Brass and Clock Co.

Danielsonville.

Quinebaug Co.

Dayville.

Hopkins, T. E.

East Haven.

Chamberlain, A. L.
Malory, Lester P.
Malory, James.
Smith, Henry, residence.

Fair Haven.

Chamberlain, C. A., residence.
Smith, Henry, residence.
Sister Mallory, residence.

Hartford.

St. Patrick's Church.
Trinity College.

Manchester.

Luther Spenger.
Wadsworth, David, residence.

Naugatuck.

Fagan, Rev. James, residence.

New Haven.

Anderson, J. C. (Savior Rock).
Convent of the Sisters of Mercy.
Rowland, F. C. & E. A., store.
Steamer "Emily Mansfield."
Steamer "F. C. & E. A. Rowland."
Steamer "J. P. Thomas."
St. Patrick's Church.
St. Patrick's Pastoral Residence.

New London.

Lewis, Leander.
Palmer, E. A.
Palmer, E. L.
Rodgers, George P.

Norwalk.

Fairfield County Bank.
Hayatt, James.
Lockwood, Maurice DeF.
Lockwood, Miss Julia.
Thomas, W. G.
Warner, Hon. Levi.

Stamford.

St. John's Church.

Waterbury.

St. Patrick's Church.

Winsted.

Adams, H. O.

NEW YORK CITY.**APARTMENT HOUSES.**

Aldhams Flats, 76th St., bet. Madison & 4th Avenues.
Apartment Houses, 80 Madison Avenue.
Apartment Houses, 126th Street & 6th Avenue.
Apartment House, 16th Street & Irving Place.
Apartment House, 92d Street & 9th Avenue.
"Benedict" Apartment House, three buildings.
Betz, J. J., Flats, "Elise."
Blesson Flats, 349 & 351 West 58th Street.
Blesson, H., Flats, "St. Albans" West 58th Street.
Blinn Flats, "Saratoga," 52d Street & Broadway.
Bliss Building, 73d Street & 4th Avenue.
Carter, H. S., Flats, "Cleveland," 124 East 24th Street.
Chelsea Apartments, 23d St., bet. 7th & 8th Avenues.
Cowel, Fred., 81st St., bet. Lexington & 4th Avenues.
Crimmins, J. D. & T. E., 1037 3d Avenue.
Donnelly, J. C., Flats, "Lexington," 49th Street & 3d Avenue.
Drake, L., 16 East 53d Street.
Essex Apartments, 61st Street & 9th Avenue.
Fowler, Anderson, Flats, "Oxford," 131 & 141 West 56th Street.
Frederick, 5th Avenue & 53d Street.
Gibbons, A.
Graves, Mrs. M. H., Flats, "Sterling," Montague Street.
Grenoble Apartments, 57th Street & 7th Avenue.
Hall, Wm., & Sons' Building, 87th Street & Park Avenue.
Hathorne Apartment Building.
Hoe, A. C. & Co.
Hoefer Flats, 55th Street & Broadway.
Hubert Home Club Apartment House, 80 Madison Avenue.
Kenmore Apartments, 57th Street & 9th Avenue.
Levi, M., Flats, "Washington," 8th Avenue, 56th & 57th Streets.
Maginn, 57th Street & 10th Avenue.
Marquand, H. G., Madison Avenue & 68th Street.
Mayer, Flats, "Strathmore," 52d Street & Broadway.
McCormack, W. J., 53th Street & 8th Avenue.

McGinnis' Flats.

Monroe Apartments, 59th Street & 6th Avenue.
Morris & Cahill, Flats, 81st Street.
Noble, William, Flats, "Oriente," 155 East 72d Street.
O'Reilly Flats.
Ottendoffer, O., Flats, "Bella," 26th Street & 4th Avenue.
Palermo Flats, 125 East 57th Street.
Peters, C. Robert, Flats, "Boston," 59th Street, 5th & 6th Avenues.
Pikes, S. N., Estate.
Poznauski, H., Greenwich & Dey Streets.
Rankins & Co., 74th Street & 1st Avenue.
Rembrant Apartment House.
Rutland Apartments, Broadway & 57th Street.
Stafford, M., Flats, "Orleans," 997 8th Av.
Stafford, M. A., 53th Street & 9th Avenue.
"St. George" Apartments, 223 & 225 East 17th Street.
The Drew Apartments, 41 Union Square.
The "Jansen" Apartments, 11 & 13 Waverly Place.
The Sherwood.
Union Apartments, 117 West 56th Street.
Vanderbilt Flats, Lexington Avenue.
Voorhees, I. D., Grand Circle & 59th Street.
Washington Apartments, 123d Street & 7th Avenue.
Westmoreland Flats.
Windsor Flats.

MANUFACTORIES.

Consolidated Card Co., 222-228 W. 14th Street.
Dunn, Jacob, Carriages, 87th St. & 3d Av.
Hazzleton Piano Manufactory, 34 & 36 University Place.
Herring's Safe Co., 13th & Hudson Streets.
Miller's Tobacco Works, Columbia & Stanton Streets.

PUBLIC BUILDINGS.

American Art Gallery.
Cassino, Broadway & 39th Street.
Central Park Home Club, 59th St. & Sixth Av.
Chapel of the House of Refuge, Randall's Island.
Collegiate Institute.
Eighth Regiment Armory, 226 West 23d St.
Fourteenth Street Theatre.
German Hospital.
Hahnemann Hospital, 4th Avenue, bet. 67th & 68th Streets.
Home for Aged Females, 104th Street & 10th Avenue.
Home for Aged Hebrews.
House of Refuge, Randall's Island.
Inebriates Home.
Insane Asylum, Ward's Island.
Little Sisters of the Poor.
Lyceum Theatre, 4th Avenue & 24th Street.
Madison Square Theatre.
Manhattan Elevated Railroad Cars.
Marquand Pavilion, 20th Street & 1st Avenue.
McKee Rankin's Theatre, 31st St. & 3d Av.
Metropolitan Concert Hall.
Mt. Sinai Hospital, 65th St. & Lexington Av.
New York Athletic Club, 6th Av. & 55th St.
New York Christian Home, Madison Avenue
New York City Hall.
New York Cotton Exchange.
New York Foundling Asylum, 3d Avenue.
Odd Fellows' Hall, Grand & Centre Streets.

Panorama, 55th Street & 7th Avenue.
Shaeffer's Terrace Garden.

Society for the Prevention of Cruelty to Children, 100 East 23d Street.

Standard Theatre, Sixth Avenue.

St. Francis Hospital, 618 & 615 East 5th Street.

St. Mark's Mission, Avenue A & 10th Street.
St. Mary's Hospital.

Stock Exchange, Wall Street.

Theis's Music Hall and Garden, East 14th St.

Twenty-third Regiment Armory.

Twenty-fourth Regiment Armory.

Twenty-sixth Precinct Police Station.

United States Assay Office.

STORES AND OFFICE BUILDINGS.

American Safe Deposit Co's Building, 42d St. & 5th Avenue.
Anderson Estate, 12 & 14 John Street.
Appleby Estate.
Appleton, D. & Co., Grand & Greene Streets.
Arnold, Constable & Co., 17th Street.
" " " 19th Street.
" " " 23d Street.
" " " Union Square.
" " " Canal & Mercer Sts.
Astor Estate, Broadway & Prince Street.
" " " Grand Street.
" " " Building, 94, 96, 98 Broadway.
Altman, B., & Co., 301 6th Avenue.
Barnett, Nephews & Co., 5 & 7 John Street.
Baumen Bros., 22 & 24 East 14th Street.
Becar, A., 187 Broadway.
Beggs, James, & Co., 9 Dey Street.
Benedict Building, Broadway & Cortlandt St.
Blackstone Building, Spring & Greene Streets.
Bogert, Albert G., & Bro., 115 Bank Street.
Broadway Bank, 237 Broadway.
Brokers' Exchange.
Brooks Bros., Store, 22d Street & Broadway.
Bryant Building, Nassau & Liberty Streets.
Building, 102 & 104 Prince Street.
" 512, 514, 516 Broadway.
" 39 Broadway.
" 69 & 71 Broadway.
" 78 & 80 " "
" 746 " "
" 50 Exchange Place.
" 16 & 18 Wall Street
" N. E. cor. Broadway & 17th Street.
" 47 & 49 Greene Street.
Burrall & Marcellus, 25 Vanderwater Street.
Busch Building.
Carrens, A., 86 Maiden Lane.
Carter Building, 8th Street & Broadway.
Cheeseborough, P. A., State & Pearl Streets.
Connors, I. S.
Continental Insurance Co., 102 Broadway.
Continental National Bank, 7 Nassau Street.
Cozzens, Edward C., 24 East 7th Street.
Davidson Building, 33 Bridge Street.
Dean Steam Pump Co., 92 Liberty Street.
Demarest, W. J., 30 & 32 East 14th Street
DeForest, W. H. & Co., Broadway & Broome Street.
DeWitt Wire Works Co., 90 John Street.
Domestic Sewing M. Co., Broadway & 14th St.
Donnell, E. J., 19 & 21 Bridge Street.
Dougerty, H. B. & W. H., 147 Bank Street.
Doying, Wm. L., 124th Street.
Edison Manufacturing Co., 65 5th Avenue.
Farmers' Loan & Trust Co., 20 William Street.
Field's Building, Whitehall Street.

Fleischman & Co., Perry & Washington Sts.
 Fourth National Bank, Nassau & Pine Streets.
 Fox, Richard K., Dover & Pearl Streets
 German Life Insurance Building, Nassau & Cedar Streets.
 Germania Life Insurance Building, 149 Broadway.
 Gidley & Co., 75 Maiden Lane.
 Gillender, H. L., 2 Nassau Street.
 Golet, R. & O., Hudson & Leonard Streets.
 Goldenberg, S., store, 126 Greene Street.
 Gurnsey Building, Broadway.
 Haight Building.
 Hanover Insurance Co., 181 Broadway.
 Hearn Building, 23 & 27 West 13th Street.
 Hegeman & Co., 203 Broadway.
 Howard Building, 176 Broadway.
 Iselire, Neeser & Co., Canal & Greene Streets.
 Imperial Building.
 Johnson, John F., 69 Wall Street.
 "Kemble" Office Building, Whitehall & Stone Streets.
 Kernochan Building.
 Kellogg, E. H., 13 Cedar Street.
 Kingsland, A. C., 5th Avenue & 20th Street.
 Kirshedt, F. A., 78 Grand Street.
 Lawrence Building.
 Ledous & Rickett, 10 Cedar Street.
 Leiderkranz Hall, 58th Street, bet. 4th & Lexington Avenues.
 Lewis Building, 623 Broadway.
 Lincoln Safe Deposit Co., 42d Street, opp. Vanderbilt Avenue.
 Livingstone Building.
 Loeser, Fred., Prince & Greene Streets.
 Lorillard Estate, Jay & Greenwich Streets.
 " " 84 & 86 Chambers Street.
 " " 61 to 73 Wooster Street.
 " " 446 & 448 Broadway.
 " " 451 & 453 Broadway
 " " 368 "
 " " 495 "
 " " 740 "
 " " 827 "
 Maddock, T. H., 234 Broadway.
 Maddock Building, 35 Bleecker Street.
 Macy, R. H. & Co., 11th Street & 6th Avenue.
 Manhattan Co. Building, 42 Wall Street.
 Manhattan Real Estate Co.
 Marcellus, C. N. & Co., 69 Varick Street.
 McCreery, Jas., Stores, 22, 24 & 26 East 14th Street.
 Merchants' Building, 4 & 6 Stone Street.
 Meriden Britannia Co., 46 East 14th Street.
 Mills & Gibbs, 452-468 Broadway.
 Minot, Hooper & Co's Stores, 53 Leonard St.
 Mortimer Building.
 Mount Morris Bank, 125th St. & 4th Avenue.
 Mutual Life Insurance Co., 144 Broadway.
 Murray Building, 235 Broadway.
 New York Stock Exchange, Wall Street.
 Office Building, 149 Broadway.
 " " 39 Broadway.
 " " 67 Wall Street.
 " " 14, 16, 18 Wall Street
 Peoples' Bank, Canal Street.
 Phelps, Dodge & Co., 19 & 21 Cliff Street.
 Potter Building, Astor Place & Broadway.
 Produce Exchange, Whitehall Street.
 Reay, M. A., 77 John Street.
 Rothchilds, Jacob, 622 & 624 Broadway.
 Renwick, E. S., 19 Park Place.
 Raymond, Russell, 42d Street & 5th Avenue.

Seasongood, I. & L., 83 & 85 Greene Street.
 Seymour Manufacturing Co., 45 John Street.
 Schermerhorn, W. L., 116 East 14th Street.
 Schlesinger, Leo, Crosby & Jersey Streets.
 Schlesinger, M., Canal & Baxter Street.
 Simpson, Crawford & Simpson, 19th Street & 6th Avenue.
 Sloane, W. J., 19th Street & Broadway.
 Solomon, M. & E., 85 Maiden Lane.
 Spingler Estate, 20 East 15th Street.
 Standard Oil Co's Building.
 Stern Brothers, 34 West 23d Street.
 Sternburger, M. & L., 34 Thompson Street.
 Stevenson Building, 44 & 46 Broadway.
 Stewart, T., 4 & 6 John Street.
 Stone, Fred. J., 28-36 Liberty Street.
 Store and Apartment, N. E. cor. Broadway & 13th Street.
 Stores, 108, 110, 110½, 112 Greene Street.
 Store, N. E. cor. Canal & Greene Streets.
 " 563-566 Broadway.
 " Fulton & Gold Streets.
 " Broadway & White Streets.
 " 77 West Houston Street.
 Street, Geo. O. & Sons, 15 John Street.
 Stuyvesant, Rutherford, 1st Avenue & 16th St.
 Sutton Building, 30 West 23d Street.
 Tailor, E. N., 45 Greene Street.
 Tarrant & Co., 278 Greenwich Street.
 Tribune Building.
 Trumbley Building, Broadway & Beaver St.
 Union Dime Savings Bank, 54 West 32d Street.
 United Bank Building, Broadway & Wall St.
 Vanderbilt Building, Beekman & Nassau Sts.
 Van Buren Building, 7, 9, 11 West 13th Street.
 Wallbridge, A. C., Spring & Crosby Streets.
 Warren Manufacturing Co., 45 John Street.
 Wells Building, Broadway.
 Weston & Fiske, 61 Water Street.
 Wetman Building.
 Wheeler & Wilson Machine Co., 44 E. 14th
 White Building.
 Wicke, Wm. & Co., 31st Street & 1st Avenue.
 Wood, Hon. Fernando, 117 & 119 Nassau St.
 World Building, Park Row.
 Worthington Steam Pump Co., 82 Liberty St.

HOTELS AND RESTAURANTS.

Albemarle, Broadway & 24th Street.
 Barrett House, Broadway & 43d Street.
 Belvilere, 4th Avenue & 18th Street
 Buckingham Hotel.
 Cable's Hotel, 141 Fulton Street.
 Centennial, 51st Street & 8th Avenue.
 Continental, 902 Broadway.
 Delmonico Estate.
 Fifth Avenue Hotel, 5th Avenue & 23d Street.
 Fisher's Hotel, 38th Street & Broadway.
 Gilsey House, 1202 Broadway.
 Golet Hotel.
 Hamilton, 5th Avenue & 42d Street.
 Hotel Brunswick, 225 5th Avenue.
 Hotel Normandie, 38th Street & Broadway.
 Hotel Royal, 40th Street & 6th Avenue.
 Hotel Shelburn, 36th Street & 5th Avenue.
 Irving House, 48 East 12th Street.
 Langham Hotel, 53d Street & 5th Avenue.
 Morton & Chesley, 42d Street.
 Mulligan, P., 1259 Broadway.
 Murray Hill Hotel, Park Avenue.
 Park Avenue Hotel.
 Parker's Hotel, 32d Street & 6th Avenue.
 Purdy's " 53d Street & 5th Avenue.

Rossmore Hotel, Broadway & 42d Street.
 Schmenger, 194 3d Avenue.
 University Place Hotel, 29 University Place.
 Victoria Hotel, 5th Avenue.
 Webb's Hotel.
 Westminster Hotel.
 Windsor Hotel, 5th Avenue & 47th Street.

CHURCHES.

Broome Street Church.
 Church of All Saints, 50 East 130th Street.
 Church of Our Lady of Sorrow, Pitt & Stanton Streets
 Church of St. John the Evangelist, 351 East 55th Street.
 Church of the Holy Redeemer, 3d Avenue.
 St. Agnes, 43d Street, near Lexington Avenue.
 St. Andrews, City Hall Place & Duane Street.
 St. Augustine's Chapel, 105 East Houston St.
 St. James, Oliver Street.
 St. Mary's, Grand & Ridge Streets.
 St. Patrick's, Mulberry Street.
 St. Patrick's Cathedral, 50th Street & 5th Av.
 St. Teresa's, 141 Henry Street.
 St. Vincent De Ferrer, 60th St. and Lexington Avenue.

RESIDENCES

Aldham, F., 70th Street, near Madison Av.
 Belden, W. H.
 Beck, Mr., 30th Street & 5th Avenue.
 Comfort, John E., 160th Street & Franklin Av.
 Cooper, Peter, Lexington Avenue, near 22d St.
 Cowell, Fred., 81st Street, bet. Lexington & 4th Avenues.
 Dowdney, A., 65th Street, near 5th Avenue.
 Gallatue, Frederick, 5th Avenue & 53d Street.
 Herb, E. H., 515 West 57th Street.
 Hewitt, Hon. A. S., 9 Lexington Avenue
 Hoe, R. J.
 Hughes, Rev. J. J.
 Jones, Mrs. M. Mason, 2 West 58th Street.
 King, Mrs. E., 431 5th Avenue.
 Leibman, Jas., 40 East 74th Street.
 Marquand, H. G., 68th Street & Madison Av.
 Mintun, Mrs. Louisa, 22 N. Washington Square.
 Pastoral Residence, Church Sacred Heart, 51st Street & 10th Avenue.
 Pastoral Residence, St. Agnes' Church.
 Powers, Rev. J., 115 East 30th Street.
 Roach, David, 70th Street & Lexington Av.
 Robertson, Tour J., 13 East 50th Street.
 Robertson, T. R., 13 East 50th Street.
 Roosevelt, H. L., 18th Street.
 Thomas, F. F., East 41st Street.
 Vanderbilt, Wm. K., 5th Avenue.
 Wright, J. Hood, 173d St. & Fort Washington.
 Wright, J. E., 127th Street & 7th Avenue.

SCHOOLS AND ACADEMIES.

Columbia Grammar School.
 Comstock's, Miss, School, 32 & 34 West 40th St.
 Convent of the Holy Cross, West 42d Street.
 Convent of the Visitation, Clinton & Wiloughby Streets.
 Dominican Convent, 65th St. & Lexington Av.
 Dominican Convent, 63d Street & 1st Avenue.
 Five Points House of Industry, 155 Worth St.
 Grammar School No. 2, 116 Henry Street.
 " " " 18, 121 East 51st Street.
 " " " 51, 523 West 44th Street.
 " " " 65, West Farms.
 " " " 68, 129th St., near 6th Av.

Grammar School No. 72, Lexington Avenue,
bet. 105th & 106th Streets.
Hebrew Orphan Asylum, 10th Av. & 130th St.
Primary School No. 9, 42 1st Street.
" " " 11, 31 Vestry Street.
" " " 36, 70 Monroe Street.

R. C. Orphan Asylum.
School for Ethical Culture, 109 West 54th St.
Sisters of St. John's Convent, 305 East 17th St.
St. Catharine's Convent, 55 East Houston St.
St. Gabriel's School, East 30th Street.
St. James School, James Street.
St. James School, New Bowery & James St.
St. Joseph's Industrial Home, 81st Street &
Madison Avenue.
St. Patrick's School, Mulberry Street.
" " 50th St. & Lexington Av.
St. Vincent De Paul School and House, West
24th Street.
St. Vincent's Home for Boys, Great Jones
Street & Lexington Place.
St. Vincent's Hospital, 12th St., bet. 6th & 7th
Avenues.
Thirty-one Public Schools.

NEW YORK.

Albany.

Kenemore Hotel.
Stanwix Hall Hotel.
State Normal School.
St. Vincent's Orphan Asylum.
Western Union Telegraph Office.

Albion.

Curtis Manufacturing Company.
Hallock, Stephen.

Amsterdam.

Cassidy, D. D., residence.
Hotel Warner.
Kellogg, John, residence.
Kellogg & Miller.
McDonald, John, residence.
New Insurance Building.
New M. E. Church.
Presbyterian Church.
Van Brocklin & Co., office.
Warner, Hon. John, residence.
Warner, DeForest & Co.

Angelica.

Allegany County Buildings.
Gillier, Joseph.

Auburn.

Auburn City Hospital.
Auburn Steam Heating Company.
Alvord, D. R., residence.
Boyd, A. A., residence.
Briggs, Dr. Lansing, residence.
Buildings No. 7, 9 and 11 Westlake Avenue.
Cayuga County Clerk's office.
Dunning, D. M., residence.
Empire Wringer Company.
Gilbert, Adame & Co.
Haggett, residence.
Jenkins, Dr. James M., residence.
Mascoe Hall.
Osborn House.
Perry Miles, residence.
Ross Napoleon, residence.
Seward, Hon. W. H., Black.
Seward, Hon. W. H., residence.
Sheldon, Mr., of Sheldon & Co., residence and
office.
Sheldon, E. L., residence.

Slocum, A. E., residence.
The M. E. Birdsell & Co., offices.
Weeks, Cossum & Co.

Aurora.

Wells' College.

Avon.

Allen and Carson Sanitarium.
Wm. Nisbet, Sanitarium.

Babylon.

Babylon Railroad Depot.
Phoenix Remsen, residence.

Batavia.

Catholic Convent.
N. Y. State Institute for the Blind.

Bath.

Courier Printing Office.
High School Building.
Soldiers and Sailors' Home.

Binghamton.

Jones, Col. E. P., dwelling.
New York State Asylum.
Phelp's Bank.
Wescott, Fred., dwelling.
Wescott, William, dwelling.

Brooklyn.

Astor, Col. Wm., Remsen Street.
Berkley Place School.
Birdsall, D. S. T., residence, Bedford Ave.
Brooklyn Annex Depot.
Brooklyn City Hospital.
Brooklyn Savings Bank.
Brooklyn Theatre.
Byrne, Dr., Clinton and Harrison Sts.
Carpenter, James O., residence.
Carroll, Rev. Martin.
Children's Aid Society.
Convent Visitation.
Corcoran, Edward.
Degraw Street School.
Deiter's Saloon.
De Kalb Avenue Railroad Depot.
Dwinnel House, 197 Fulton Street.
Fish, Latham A.
Flats, cor. Lafayette Ave. and Ryerson St.
Flinn, John.
Hall, S. W.
Hamilton Club.
Hill, Wm. H., Clinton Avenue.
Historical Society.
Hogland, J. C., Clinton Avenue.
Home for Aged Church Charity.
Home for Aged Little Sisters of the Poor.
Home for Destitute Children.
House of the Good Shephard, Atlantic Ave.
Howard Colored Orphan Asylum.
Jennings, A. G., Clinton Avenue.
Litchfield Mansion, 3th Ave. and 5th St.
Long Island College Hospital.
Long Island Hospital.
Long Island Savings Bank.
Morse, G. L.
Ovington Building.
Packard, Edwin.
Pastoral Residence Church of the Sacred
Heart.
Phoenix Building.
Public School No. 40.
Reid Avenue M. E. Church.
Rutzler, E., residence, 35 Berkley Place.
St. Catharine's Hospital.

St. John's Home.
St. Teresa's Church.
St. Teresa's School.
Taft, Rev. T.
Waldbridge Music Hall.
Wechler & Abraham, store, Fulton Street.
Wemple, J. C.
White, J. J.

STEAMSHIP COMPANIES.

Ben. Franklin Steamboat Line.
Hamburg-American Packet Co., Hoboken.
Inman Line.
Starin's, John H., New Haven Line.
" " Offices, Pier 18, North River
Steamboat Pilgrim, Old Colony Line.
" C. H. Northam, New Haven Line.
" Tremont, Portland Steam Packet
Company.
Steamer Drew, Peoples' Line.
" St. John, Peoples' Line.
" Massachusetts.
Steamship Alsatia (Anchor Line).
" Craigendoran.
" City of Brooklyn.
" Glen Tyne.
" Assyrian Monarch.
" Egyptian Monarch.
" Grecian Monarch.
" Lydian Monarch.
" Persian Monarch.
" Archemede (Italian Line).
" Gottardo. " "
" Indipendente. " "
" Vincenco Florio. " "
" Washington. " "
" Singapore.
Steam Yacht Utowana owned by Mr. H. E.
Connor, of New York.
Steam Yacht Viking.
White Star Line.

Buffalo.

Commercial Advertiser Office.
Iron Review Office.
Kenyon, Dr. L. M.
Merchant's Exchange.
N. Y. C. & H. R. R. Depot.
N. Y., W. S. & B. R. R. Depo.
Throop's Grain Cleaner Co.
Tift House.
Whale Opera House.
Young Men's Christian Association.

Canandaigua.

Coe, W. W.,

Canajoharie.

Arkell, James, residence.
Hotel Wagner.
White, Mrs., residence.

Catskill.

Hallock, James, residence.
M. E. Church.

Catskill Mountains.

Grand Hotel.
Hotel Kaaterskill

Chester.

Chamberlain, R. W., residence.

Clove Branch.

Storm, G., residence.

Cohoes.

St. Agnes' Church.

Coney Island

Hotel Brighton.
Manhattan Beach Hotel.
Oriental Hotel.

Cooperstown.

Hotel Fennimore.
Otsego County Court House.

Corning.

Corning Glass Works.
Corning Water Works.
Dickinson House.
Fall Brook Coal Company Depot.
Fall Brook Coal Company, offices.
Hoare, John, residence.
Moore, J. F., residence.

Cortland.

Cortland Wagon Company.
Wickware, C. S.

Dansville.

Austin, Jackson & Co.
Dr. Jacksyn's Sanitarium.
Our Home.

Dewittville.

Insane Asylum.

Dolgeville.

Dolge, Alfred, Felt Department.
Dolge, Alfred, Lumber Department.
Dolge, Alfred, private offices.

Dundee.

Harpending, A. C.
Raple, Miles W.

Dunkirk.

Brook, H. G., residence.
Brook's Locomotive Works.

East New York.

House of the Good Shepherd.
Wortburg Home.

Elmira.

Arnold's Arcade Block.
Brown, J. L., residence.
Crane, T. W., residence.
Durland & Pratt, store.
D., L. & W. Railroad Depot.
Fish & Holmes, store.
Fish, W. W., residence.
Hand, H. P., residence.
Lorimore & Tompkins, wholesale house.
Robinson, G. L., residence.
School No. 4.
Wyckoff, Mrs. George, residence.

Erin.

Rodburn, J. H., residence.

Fairport.

Baptist Church.
Mordoff, A. F.

Fishkill.

Roller Skating Rink.

Fort Plain.

Clinton Liberal Institute.
N. Y., W. S. & B. R. R. Depot.
Woods, E. W., residence.

Fredonia.

Fredonia State Normal School.
Putman, A. O., residence.

Fultonville.

N. Y., W. S. & B. R. R. Depot.

Geneva.

Baldwin, A. A.
Catholic Convent.
Clark, Dr. H. K.
Covert, Dr. N. B.
Franklin House.
Hobart College.

King, Jr., Wm. J.
McMannus, Rev. J. T., V. G., residence.
M. E. Church.
Nester, S. K.
Sanford, M. S.
Smith, Dr. A. B.
Squires, E. N.

Genoa.

Tift, A. E.

Gloversville.

Kasson, A. J., residence.
Kasson, H. Z., residence.
Littaner Block.
Memorial Hall Opera House.
Miller, J. A., residence.
McGuire, Byrnard, residence.
McNabb, John, residence.
Sporbourg, W. L., residence.
Still, E., residence.

Goshen.

Howell, Sidney O.
N. Y., W. S. & B. R. R. Depot.

Gouverneur.

Van Duzen, T. B.
Vanburen House.

Hamburg.

Bunting, J. L., residence.

Herkimer.

Folts, G. P., residence.
Herkimer Paper Company.
Howell, Wm. B., residence.
Marks, Morris, residence.
Salmo, James, residence.

Honeoye Falls.

Case and Huntington.
Dutton and Allen.

Hornellsville.

Bernick, O., residence.
O'Connor, Geo. W.

Irvington.

Public School.

Ithaca.

Andrews & Church.
Baker, Geo.
Burdick, D. W.
Campbell, F. B.
Clark, Uri.
Cornell, Frank.
Cornell University Buildings.
Ellston, J. A.
Esty, W. W.
Fiske, Mrs. McGraw.
Glenzer, J. J.
Jackson & Bush.
Jamison & McKinney.
Lewis, Mrs. Geo.
MacKoon, Prof.
Public School, East Hill.
Sage, Hon. H. W.
Sage, W. H.
Sherman, Geo.
Van Natta, J. E.
Wait, Prof.
White, Prof. H. S.
Whitlock, C. A.
Williams, Prof. Henry.
Williams & Brothers.

Jamestown.

Chair, W. S. & Co's Block.
Gokey & Son, N. W.
Hall, Erie L.

Johnstown.

Sir William Johnson Hotel.

Kingston.

Cornell Steam Boat Co's Building.
County Clerk's Building.
Fair Street Reformed Church Parsonage.
First Reformed Church.
Kingston Armory.
Lecture Room First Reformed Church.
N. Y., W. S. & B. R. R. Depot.
Ostrander, Jas. E.
Rosa, Dr. Hyniar.
Stilwell, C. S.
Surrogate's Building.
Tremper, Hon. Thomas H.
Ulster County Savings Institution.
Van Dusen, Mrs. Columbus.
Van Slyke, Rev. J. G., parsonage.

Le Roy.

Wells, D. C., & Co.

Lima.

Beadle Brothers.

Little Falls.

Benedict, Charles, residence.
First Presbyterian Church.
Gilbert, J. J., residence.
Girvan House.
Grand Central Hotel.
Metropolitan Hotel.
Mullen, Joseph, residence.
Sheard, Hon. Titus, residence.
Whitman, Walter, residence.
Zoller, Jacob, residence.

Livingston Station.

Hudson River Iron and Ore Company.

Lockport.

Pound, Waterman S.

Lyons.

Franklin, W. D.

Mamaroneck.

McGregor, A. M., residence.

Marlborough.

Gellispie, Rev. D. D.
Harcourt, Eli.
Milliard, S. N.

Middletown.

Academy avenue School.
Board of Education.
Court House, Jail and Surrogate's Offices.
Cummings, Ira, residence.
Insane Asylum.
Russell House.

Mount St. Vincent on the Hudson.
Mount St. Vincent Academy.

Newburgh.

Frances Linch.
Havermyer, A. H.
Scuff, T. W.
Smith, A. C.
St. Patrick's Church.
Vail, Walter.
W. S. R. R. Depot.

New Rochelle.

Board of Education.
Count, N. L., residence.

Niagara Falls.

The Porter Building.

North Lansing.

Wilcox, William.

Norwich.

Harkness, Robert, residence.
Merritt, Charles H., residence.

Oneida.
Hotel Brunswick.

Oswego.
City Hall.
D. L. & W. R. R. Depot.

Palatine Bridge.
Taylor, J. D., residence.
Webster, Hon. Wagner, residence.

Pawling.
Dutchess Hotel.
Mizzen Top House.

Peekskill.
Convent of Our Lady of Angels.
Franciscan Convent.
R. C. Orphan Asylum.

Penn Yan.
Baldwin, M. L.
Catholic School.
Fox, W. H.
Hamlin, L. O.
Lapham, G. H.
Wise, W. N.

Phelps.
Hobby, C. E., residence.

Pine Plains.
Eno, Wm. S., residence.
Seymour Smith Academy.

Port Chester.
Wesley, E. B., residence.

Port Henry.
Sherman, G. R.
Witherbee, F. F.
Witherbee, Mrs. T. L.

Port Jervis.
Farnum Building.
Hieber, M. V.
McGinnis, Thomas.
Mills, J. J.
Mountain House School.

Potsdam.
Academy of Music.
Albion Hotel.
Town Hall.

Poughkeepsie.
Baptist Church of Christ.
Dutchess County Mutual Asylum
Eastman's College.
Hudson River State Asylum
Hudson River State Hospital.
Insurance Buildings.
Nelson House.
Vassar Home for Aged Men.

Richmond Hill, L. I.
Forbs, Dr. Wm. H., residence.

Rochester.
Alling & Cory, store.
Archer, Geo. W., Building.
Bartholomy Park Hotel.
Brackett House.
Burke, C. J., residence.
Buel, Geo. C., Marble Block.
City Hall.
Corinthian Academy of Music.
Crossman Brothers.
Cunningham, J., Son & Co
Cunningham, J.
Danforth, Judge.
Deaf Mute Institute
Duffy, Bussey & Wile.
Dwyer, Rufus K.
Eastman Dry Plate Company.
Eastwood Estate.

First Baptist Church.
Fitzsimons, Chas.
Fitzsimons, Burke, Hose Company.
Gillis, J. W.
Gorsline, Wm. H.
Graves, L. S. & Son.
Hadens & Havens Co.
Manderville, Dr. F. A., residence.
Hastings, Chas. S.
Harrison, James M.
Henion, Dr. J. B., residence.
Hobbie, Mrs. A. C., residence.
Jones, Dr. Jonas.
Lamberton's Commercial Building.
Lass, L. M.
Levi, Nathan.
McGuire, Horace.
McQuade, Right Rev. B. J.
Mensing & Stucker.
Monroe County Court House.
Moore, John C.
Morey, Jr., John E.
Nazareth Convent.
New Osborn House.
Night, Alfred N., factory.
N. Y. C. & H. R. R. R. Round House.
Pitkins', Peter, Building.
Power's, D. W., Commercial Building.
Powers, D. W., residence.
P. & R. R. R. Car Shops.
P. & R. R. R. Round House.
Rebay, Wm. M.
Reynold's Arcade.
Roache Brewing Company, office.
Roby, S. B. & Co.
Rochester Axel Works.
Rochester Savings Bank.
Rochester Paper Company.
Sagar, Joseph.
Shipman, A. H.
Sibley, Hiram & Co.
Sloan, Samuel, residence.
Sloan, Samuel, store.
Smith, John A.
Smith, J. Morean.
Smith, John.
St. Joseph's Asylum.
St. Joseph's Orphan Asylum.
St. Mary's Hospital.
Vanderburg, E. H., residence.
Vogt's, A., Building.
Walbridge, S. D.
Warner, Dr. H., building.
Warner, H. H., residence.
Western House of Refuge.
Wight, Alfred, residence.

Rome.
Central N. Y. Institute for Deaf and Dumb.
Methodist Church.

Savona.
Ellis, Clarence, residence.

Saratoga.
Avery, Geo. H., residence.
First National Bank.
Gillis, G., residence.
Rickard, S. A., residence.

Sag Harbor.
Fahy Watch Case Company.

Schenectady.
Clute, J. W., residence.
Dillenbeck, A., residence and store.
Locomotive Works.

Schermehorn, E. Nott, residence.
Swift, Dr. H., residence.
Veeder, G. S., residence.

Seneca Castle.
Schoonmaker, H. S.

Seneca Lake.
Williard Asylum.

Sherburne.
Elsbre, Uadine & Co., store.

Sing Sing.
Roller Skating Rink.
Sing Sing Prison.

Skaneateles.
Webb, Mrs. H., residence.

Staten Island.
Bechtel, Geo., brewery and residence.
Building of the Mission of the Immaculate
Virgin, Pleasant Plains.
Drumgoole, Rev. J. C., Mt. Loreita.

Stuyvesant.
Blair, James, residence.

Syracuse.
Century Club.
County Clerk's Building.
Eagle Hotel.
Gere, W. H. H., residence.
Greenway Building.
Hasbrouck, E. P., residence.
Heir & Aldrich Manufactory.
House of Providence.
Kearney, Wm., residence.
Phoenix Foundry.
Syracuse Screw Company.

Tarrytown.
Field, Hon. Cyrus W., residence.
Webb, W. H.

Throgg's Neck.
Huntington, C. P.
Joseph Institute.
Troy.
Burden Iron Company.
Burden, J. Townsend.
Burden, J. H.
City Hall.
Curley's Hotel.
Oakwood Cemetery Offices.

Tuckahoe.
Gilford, Silas D., residence.

Utica.
Chronic Insane Asylum.
Martin, Edward, residence.
Middleton, Robert, residence.
St. John's Church Parsonage.
Shaughnessy Bros., store.

Walden.
Stoddard, Geo. W.
Waterford.
Gugerty, Patrick.

Waterloo.
Bacon, W. H.
Beacon, Fred, residence.
Clark, Frank M.
Clark, W. B.
First National Bank.
Historical Building.
Spencer Iron Company.
St. Paul's Church.
St. Paul's School.
Terwilliger, A. H.
Mercer, M. D.
Waterloo Wagon Company.

Watertown.
Kirby House.
Knowlton Brothers.
Remington Mansion.
Woodruff House.

West Chester.
Catholic Protectory.

Westfield.
Bremer, Hon. F. B.
Cowden, Mr. H. J.
Guild, James O.
Ramsey, Mrs. O. C.

Tonkers.
Geddy House.
Opera House.
Warburton Hall.

PENNSYLVANIA.

Athens.
Stimpson House.

Andenried.
Bullock, E. L., residence.

Bethlehem.
Bethlehem Iron Company, South Bethlehem.
Lehigh University (gymnasium).
St. Luke's Hospital.

Blairsville.
Blairsville Female Seminary.
Pennsylvania Railroad Depot.

Bridensburg.
Laboratory E. & G. Brooks Iron Company.

Bridensburg Station.
Lyford, Major L. C., residence.

Bristol.
St. Mary's Church.

Bousson.
Bousson, L.

Catasauqua.
Catasauqua Manufacturing Company's Office.
Holly Wee Coffee House.
Hunt, Joseph, residence.
Thomas, Samuel, residence.

Chambersburg.
Franklin County Court House.

Chickies.
Pennsylvania Railroad Depot.

Clarion.
M. Arnold's Building.

Columbia.
Craig, Dr. A., residence.
R. and C. Railroad Depot.

Conneautville.
Warmald, Robert, residence.
Warmald, Mrs. J., residence.

Cresson.
St. Frances' College.

Ebensburgh.
Alms House.

Edinborough.
State Normal School.

Elizabethtown.
Eaby, Simon A., residence.
Farmers' Bank.

Erie.
Ashby & Vincent's Building.
Reed House.
Downing, J. F., Building.

Downing's, J. F., Insurance Building.
Dumgaris, Dr., residence.
Dunning, M. A.
Erie County Court House.
Mercer County Court House.
Mercer County Alms House.
Orphan Asylum.
Reed, Hon. C. M., residence.
Rein, R. O., residence.

Ferndale.
Catasauqua Manufacturing Co., offices.

Flemington.
Humphrey, L., residence.

Foxburgh.
Foxburgh Hotel.

Frankfort.
Pilling, Robert, residence.

Franklin.
City Hall.
Greensburg.
Westmoreland County Alms House.

Greenville.
Fell's Hotel.
Packard, D. P.

Harrisburgh.
Alms House.

Hazleton.
Dryfoos, H., market.
Markle Bros. & Co., bank.

Homewood.
Swartze, J. E., residence.

Kittaning.
Reickert Brothers.
Reickert, J. E., residence and store.

Lancaster.
Buckenderfer, N.
Hotel Franke.
Intelligencer Printing and Publishing Co.
Johnson, O. S., & Co., store.
Kendig, John S.
Keystone Lock Works.
Lackawanna Court House.
Lancaster Cork Works.
Leopard Hotel.
Mannerchor Hall.
Reed, McGrann & Co.
Rohner, Jeremiah, residence and store.
Stam, Frederick, residence.
Stettler, S. N., & Co., store.
St. Mary's Academy.

Litiz.
Buckhart, A. M.
Erly, John B., residence.
Linden Hall Seminary.

Milton.
Schreyer, W. A., residence.
Wilson, R. F.

Mount Holly Springs.
Mount Holly Springs Paper Company.

Mount Joy.

Engle, D. H.
Hoofman, S. S.
Linderworth, H. H.
Peiffer, Martin B.

Norristown.
Hutchinson, Streeper, residence.
St. Patrick's Church and School.

North Grafton.
Nelson, J. S., & Son, Boot Manufactory.

Philadelphia.
Allen, W. H. & G. H.
Ayers, Wm., & Son.
Barnett, G. A., & Sons,
Broad Street Station, Pennsylvania Railroad.
Bryn Mau College.
Caduwald, Frank.
Cathedral T. A. B. Hall.
Childrens Homœopathic Hospital.
Collins, A. M., Son & Co.
Delvin, Thomas, & Co.
Devon Iron Co.
Dyott, M. J.
Ellison, J. B., & Sons.
Fairmount Worsted Mills.
Flan, Rev. Michael, residence.
French, Richards & Co.
Gaway, Rev. A. J., residence.
Grace Baptist Church.
Grand Central Theatre
Green's Restaurant.
Horn, W. H. & Bro., 455 North 3d st.
Hotel Lafayette.
House of the Good Shepherd.
Judge, Wm., & Bros.
Merchants' Exchange.
Morris, E. P.
Mullholland, Rev. J. E., residence.
McGuire, James.
O'Connor, Rev. C. P., residence.
Patent Metal Works.
Saller, Lewin & Co.
Smidley House.
Stores 719, 721, 723 Vine Street.
St. Frances School, 24th and Green Streets,
and Sisters residence adjoining.
St. James' Parochial School.
St. Joseph's Hospital.
St. Patrick's School.

Pine Creek.
Gale, W. & R.

Pine Grove.
Wertz, John F.

Pittsburgh.
Alleghany Hotel.
Anderson Hotel.
Armstrong, Brother & Co.
Best, Fox & Co.
Clentick M., Estate
Duquesne Bank.
Garretson & Ricketson.
Home for Incurables.
Lewis Building.
Maginn Bros.
Pennsylvania Incline Plane Co.
Pittsburgh Petroleum Exchange.
Royal Insurance Co's Building.
Seventh Avenue Hotel Building.
Stewart, Robert, residence.
United Pipe Line, offices.
Westinghouse, H. H., dwelling.
Y. M. C. A. Building.

Pottsville.
Lineweaver, Dr. W. J.

Reading.
Basby, John.
Beaver, Dr. D. B. D.
Boyer, Jerome L.
First Presbyterian Church.
Keiser, David
Philadelphia & Reading R. R. Dining Rooms.
Public School Building.
Raser, Dr. John B.
Reading Iron Works.

Ridgeway.
Elk County Court House.

Sayre.
General Offices Pa. & New York R. R. Co.
Packer, Robert A., residence.

Seranton.
D., L. & W. R. R. Depot.
Hunt & Connell, store.
Insane Asylum.
Lewis, E. R.
St. Vincent's Cathedral.
The Pancoast Coal Company, store and office.

Sharpshville.
Sharpshville School.

Smethport.
McKean County Buildings.

St. Marys.
Commercial Hotel.
German Catholic Church.
Hauhauser, J. A.
Kaul, A., residence.
Luhr, Charles, store.

Tidioute.
Tidioute Chair Company.

Towanda.
Hale, E. W., residence.

Troy.
Bowen, D.

Uniontown.
Opera House Building.

Warren.
Struther's Hotel.

Watsonstown.
Watsonstown Planing Mill.

Wellsboro.
Cole's House.
County Clerk's office
Parkhurst House.

West Chester.
State Normal School.

West Point.
West Point Engine and Machine Works.

Williamsport.
Bloodgood, J. F.
Bower, Henry, restaurant.
Coleman, F.
Coleman, Fletcher, residence.
Court House.
Cummings, Judge H. H., residence.
Forseman, R. M.
Henry House.
L. L. Corning National Bank.
Parker, J. O., residence.
Ryan, S. R. F., residence.
Sanderson, G. H., residence.
Spafford, O. J., residence.
Wagner, A. L., architect.
West Branch National Bank.
Williamsport National Bank.

Wilkesbarre.
L. V. R. R. Co. Depot.
N. Y. C. & H. R. R. R. Depot.
Pennsylvania Railroad Depot.
School Building.

York.
Farquhar, A. B.

NEW JERSEY.

Arlington.
Green, H. C.

Atlantic City
Warrington, Dr

Belleville.
St. Peter's Church.

Bloomfield.
Church of the Sacred Heart.

Bridgeton.
West Side Machine Co.

Brighton.
Allen, William, residence.
Bright, B. T., residence.
Buck, Robert, residence.
Coyle, Rev. L. E., residence.
Cumberland County Alms House.
Cumberland National Bank.
Cumberland Nail and Iron Co.
Garrison, Prof. W. O., residence.
Hohenstat's Hotel.
Minch, F. B.
McGear, H. H.
McGear, Chas. P.
Nixon, W. G.
West Presbyterian Church.
Woodruff, W. H.

Bound Brook.
Bound Brook Hotel.

Camden.
Camden & Atlantic R. R. Office.

Cape May.
Allen, Geo. W., Cottage.

Closter.
Hildeck, Alfred.

Covert Station.
St. Elizabeth's Academy.

Dover.
Public Schools.
Richards, Geo. & Co., 2 buildings.

Elizabeth.
St. Patrick's Church.

Englewood.
Bliss, Delos, residence.
Freudenthal, J., residence.

Greenville.
Dominican Convent.

Harrison.
Sacred Heart Convent.

Hibernia.
Richards, Geo., & Co.

High Bridge.
Eaton, J. H.

Hoboken.
Academy of the Sacred Heart.
Church of Our Lady of Grace.
City Hall.
Public School No. 8.
Round House D., L. & W. R. R.
Timken, H. L., Hotel.
West Hoboken Monastery.

Jersey City.
Battin, Rev. Mr.
Brown, T. C., Building.
Central Railroad Ferry Offices.
Dodge, A. M. & Co's, Office.
Dominican Convent.
First National Bank.
Fuller Building.
Furst Bro's store, Newark Ave.
High Service Reservoir Building.
Holden, D. L., residence.
Ingwersen Building.
Jersey City Post Office.
Lorillard & Co's Office.
Morrow & Day, store.

Pennsylvania Ferry House, Depot and Offices.
Perkins, George F., residence.
Public Schools Nos. 8 and 21.
Roche Building.
Standard Wood Turning Co.
St. Aloysius Academy.
St. Patrick's Cathedral.
Thompson, J. R., & Co's Office.

Jobstown.
Lorillard, P.

Key East
Avon Inn.

Laurel.
Lakewood Hotel.

Lawrenceville.
Lawrenceville School.

Long Branch.
Catholic Church.
Hoey's, John, Cottage.
Hoey's, John, Cottages.
Pennsylvania Club House.

Madison.
Drew Theological Seminary.
St. Vincent's R. C. Church.

Montclair.
Watson, Dr.

Morristown.
Court House and Jail.
Haley, Capt. B. F.
Mansion House.

Newark.
Aldine Apartment House.
American Insurance Co., Broad Street.
Atha, Benj., High Street.
Bradley, W. H., Broad Street.
Callunder Insulating Company.
Centennial Buildings, Market Street.
Dowden, Chas.
Dunn, E. & Bro., 104 Market Street.
Essex Club, 44 Park Place.
Essex County New Asylum.
Essex County Insane Asylum.
Fayette, Dr., Washington Place.
Heath Building.
Heeler, Fred., Clinton Avenue.
House of the Good Shepherd.
House for the Aged.
Howard's Savings Institution.
Jenkenson, Geo. B., High Street.
Merchants' Insurance Co., Broad Street.
Merserau, W. T. & J., Railroad Avenue.
Murphy, Franklin, Broad Street.
Murphy & Co., Varnish Manufacturing Co.
Newark Aqueduct Board Office.
Newark Savings Institution.
Parker & Keasley, Broad Street.
Rutherford Apartment House.
St. Joseph's Church.
St. Joseph's Rectory.
St. Joseph's School.
St. Vincent's Industrial School.
Vanderpool, Beach, Washington Place.
Ward, Hon. Marcus L., Washington Street.
Warton, John, Market Street.

New Brunswick
Middlesex County Jail.

Newtown.
Hamilton Square Baptist Church.

North Bloomfield.
Martin, A. D., residence.
Universalist Church.

Ocean Grove.
Sheldon House.

Orange.

Martin, Chas. J.
Minot, J. A., residence.
Seymour, J. M., residence.
St. John's Rectory.
St. Mary's Orphan Asylum.
Young Men's Catholic Association Hall.
Worth, Frederick, residence.

Orange Valley.

Church of Our Lady of the Valley.
Young Men's Christian Association.

Passaic.

Passaic Print Works.
Reid & Barry.
Spencer, B. W.
Werthurn, Moses E.

Paterson.

Frost & Sons, Albion Mills.
Kinne Building.
Norwood, John, residence.
Public School No. 11.
Public School No. 12.
Ryle, Wm. T., residence.

Plainfield.

Babcock, George H.
Cooley Institute.
Darby, A. B.
First National Bank.
Fritts, J. T., residence.
Muhlenbury Hospital.
Netherwood Hotel.
Railroad Depot.
Stillman Hall.
Van Vleet, Clinton.
Watson, George.

Princeton.

Princeton College.

Red Bank.

Hendrickson, Applegate & Connors, stores.
Post Office.
Rumsey, George A.

Somerville.

Craton, Dr. A.
Johnson, Mrs. W. S.
Kenyon, Job C.
Maxwell, John.
Somerville Engine Company.
Swinton, Dr.

South Amboy.

R. R. Station House, N. Y. & L. B. R. R.

Trenton.

Dalton, Wm., residence.
Morse, James, residence.
St. John's School and Houses.
Trenton Public Schools.

Weehawken.

Passenger Station N. Y., W. S. & B. R. R.

Woodbury.

Green, G. G., residence.

Woodhaven.

Grosseau, F.
Salance & Grosseau Manufacturing Co.

DELAWARE.

New Castle County Insane Asylum.

Dover.

Hotel Richardson.
Richardson, Henry, residence.

Wilmington.

Wilmington Skating rink.

MARYLAND.**Cumberland.**

Alleghany County Court House.
Shepherd, O. C.

DISTRICT OF COLUMBIA.**Washington.**

Agricultural Building.
Anastaw School.
Art Gallery.
Ballentine, Wm., residence.
Bureau of Education.
Children's Hospital.
Clark, Gen., residence.
Columbia Institute.
Columbia Preparatory Department.
Columbia University.
Copsland, M., residence.
Corcoran Building.
Deaf and Dumb Asylum.
Department of Justice Building.
Dominican Convent.
Donnelly, D., restaurant.
Ebbitt House.
Evans, John O., Building.
Evans, John O.
Falminger, H. H., residence.
Fitzgerald, N. W., & Co.
Garfield Memorial Hospital.
Gibson Bros.
Government Hospital for the Insane.
Hayward & Hutchinson, 3 stores.
Hove Block.
Johnson's Eating Saloon.
Louise Home.
Lutheran Church, Penn. Ave. and M St.
Lyon, John, office, 1538 Penn. Ave.
Mason, Mr. E. E., residence.
Mason, George, residence.
Metropolitan Club House.
Mills, Henry R., residence.
Milton Flats.
National Institute.
National Museum.
Nat. Union Fire Insurance Building.
New Pension Building.
O'Brien's Hotel.
Portland House.
Rochester, Gen., Paymaster Gen., residence.
Quartermaster's Office.
Smithsonian Institute.
Stevens, F., residence.
St. Elizabeth Insane Asylum.
St. Joseph's Asylum.
St. Marc's Hotel.
St. Patrick's Church, G and 10th Sts.
Sullivan, T., restaurant.
Swain, Gen. D. G., Judge Advocate General, residence.
The Gale's School Building.
United States Capitol Building.
United States Department of Justice.
United States Interior Department.
United States Navy Department Building.
U. S. Patent Office Department Building.
United States State Department Building.
United States Treasury Building.
United States War Department Building.
Washington Beneficial Endowment Ass'n.
Washington National Republican Office.
Washington Post Office.
Webster School.
Woodward & Lathrop.

Mt. Pleasant.

L. H. Crawford, residence.

VIRGINIA.**Danville.**

Newton House.
Hampton.
National Home for Disabled Soldiers.

Petersburgh.

Central Lunatic Asylum.

Richmond.

Company's Office.
Exchange Ballard Building.
Tanner, William E., residence.
Tanner & Delaney, engine.

Williamsburgh.

Eastern Lunatic Asylum.

WEST VIRGINIA.**Bethany.**

Eyster, J. A.
Pendleton, W. K., residence.

NORTH CAROLINA.**Charlotte.**

Charlotte Oil Company.
Wilmington.
Harr & Bailey.

SOUTH CAROLINA.**Charleston.**

Charleston Hotel.

GEORGIA.**Thomasville.**

Piney Wood Hotel.

FLORIDA.**Jacksonville.**

Steamer "Edith Bancroft."

Magnolia.

Magnolia Hotel.

St. Augustine.

Craft, Isaac F.
St. Marco Hotel.

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Mobile.

United States Custom House.
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Turkish Bath House.

TEXAS.**Galveston.**

Beach Hotel.

OHIO.**Canton.**

Conotton Railroad Depot.
General City Office.
Gibbs, Lewis, residence.

Clifton.

Convent of the Sacred Heart.

Columbus.

Deaf and Dumb Asylum.
Idiotic Asylum.
Hayden, William B., residence.
Hayden, Charles, residence.
Hutchinson, S. E.

Dayton.

Spinning, D. C., residence.

Findley.

School Building.

Fosteria.

Governor Foster's Block.

Granville.

Kirt, Mrs. W. P., residence.

Lima.

Allen County Court House.

Allen County Jail.

Allen County Infirmary.

Porter, W. L., residence.

Miamisburgh.

Brookwater, D.

Newark.

Bailey, J. S.

Baker, M. Q., residence.

Black, Dr. J. R.

Jones, William.

Kibler, Charles H., residence.

Miller, A.

Miller, William, residence.

Thomas, James E.

Ravenna.

Portage County Court House.

Springfield.

Arcade Hotel.

Opera House.

Tiffin.

School Building.

Warren.

Lyman, Dr. A. E., residence.

Pendleton, W. C.

Zanesville.

New Passenger Depot B. & O. Railroad

INDIANA.**Burton.**

Arnold, Isaac B., residence.

Terre Haute.

Phoenix Foundry and Machine Co.

MICHIGAN.**Ann Arbor.**

Jewett, Samuel P., residence.

East Saginaw.

St. Mary's Hospital.

Grand Rapids.

Gray, George W.

Housman, Hon. Julius.

Leonard, Charles.

School Buildings.

Kalamazoo.

Lawrence, W. T., residence.

Marquette.

St. Paul's Church.

Sullivan, Mrs., residence.

Muskegon.

City Hall.

Killup, Wm. M. M., residence.

Mason, L. G., residence.

Milens, C. E., residence.

New School Building

Hanson Street School.

School No. 3.

St. Louis.

Elwell, Col. J. A.

Traverse City.

Travers City Jail.

Hannah, Lay & Co.

ILLINOIS.**Batavia.**

Kansas County Alms House.

Chicago.

Adams, J. Q., store.

Baltimore and Ohio Hotel.

Baltimore and Ohio Passenger Depot.

Chicago Mal. Iron Company, office.

College of Physicians and Surgeons.

Cooks County Hospital.

Griffith, A. A., residence.

Home Insurance Building.

Rynson Building.

Superior Street Hospital.

Taylor Building.

The Masury Apartments.

Wheeler Apartments.

Evanston.

Hill, Robert, residence.

Joliet.

St. Mary's Church.

Pullman.

Pullman Palace Car Company.

WISCONSIN.**Appleton.**

Waverley House.

Bayfield.

Bayfield Court House.

Chippewa Falls.

Chippewa Lumber and Broom Co.

Stanley House.

Fond du Lac.

Fond du Lac Hospital.

Davis, Mrs., residence.

Milwaukee.

Chapman, F. A., & Co.

Finney, J. N.

Fourth District School.

Mack Block.

Rindle, Spence & Co.

Stark Bros. & Co.

State Normal School.

Oshkosh.

Rundie, C. L.

IOWA.**Calmar.**

Potter, E. V., residence.

Emmetsburgh.

Olmsby Bros. & Co., bank and office building.

Ottumwa.

Armstrong, W. B.

Eaton, Daniel.

Harrow, Albert.

Lighton, A. C.

Mast, I. N.

Mast, Isaac.

Merrill, J. H., & Co.

Ottumwa Iron Works.

MINNESOTA.**Duluth.**

Patten & McMillan.

Minneapolis.

Brand & Richard.

St. Paul.

Fox, J. L., & Co.

MISSOURI.**Columbia.**

State University.

Kansas City.

Union Depot.

Kirkville.

State Normal School.

NEBRASKA.**Lincoln.**

Walsh, H. Z.

Nebraska City.

Melcraft, J.

Nebraska City Hall.

Omaha.

Milliard, E., stores.

Morse, W. V. & Co., stores.

The Milliard Hotel.

KANSAS.**Atchison.**

Union Depot.

Fort Scott.

Union Block.

Leavenworth.

Angell, A. J.

Townsend, C.

COLORADO.**Denver.**

Clayton Block.

Barclay Block.

Daniels & Fisher, store.

Walleck & Howard Block.

Windsor Hotel.

Salina.

D. R. S. Offices.

WYOMING TER.**Cheyenne.**

Carey's, Judge J. M., Building.

Carey, Judge J. M., residence.

Sturges, Thomas, residence.

Colorado Springs.

Merrill, W. H. D.

UTAH.**Salt Lake City.**

Benedict, Dr. Joseph, residence.

Pitts, W. H., residence.

Salt Lake Daily Tribune.

CANADA.

Dominion Bank Building.

Montreal.

Standard Insurance Building.

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IN offering a few pages for the purpose of bringing to favorable notice manufacturers of reputation, we can confidently say all are favorably known to us, both as to skill and reliability.

Yours truly,

Thos. H. Williams Pres

A. A. Griffing Iron Co.

— THE AUBURN —

STEAM GENERATOR

— OF PULSIFER PATENT. —



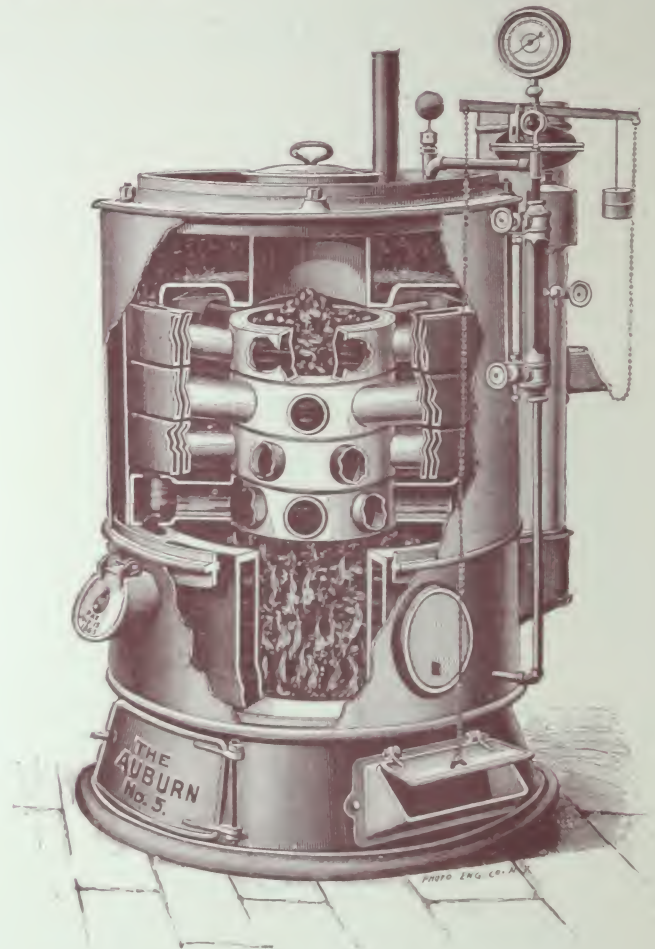
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PATENTED

IN THE

UNITED STATES AND CANADA.

Will carry steam continuously, and supply more radiating surface than any other boiler of equal size.



BROKEN OUT VIEW OF BOILER.

FOR HEATING DWELLINGS, STORES, ETC.

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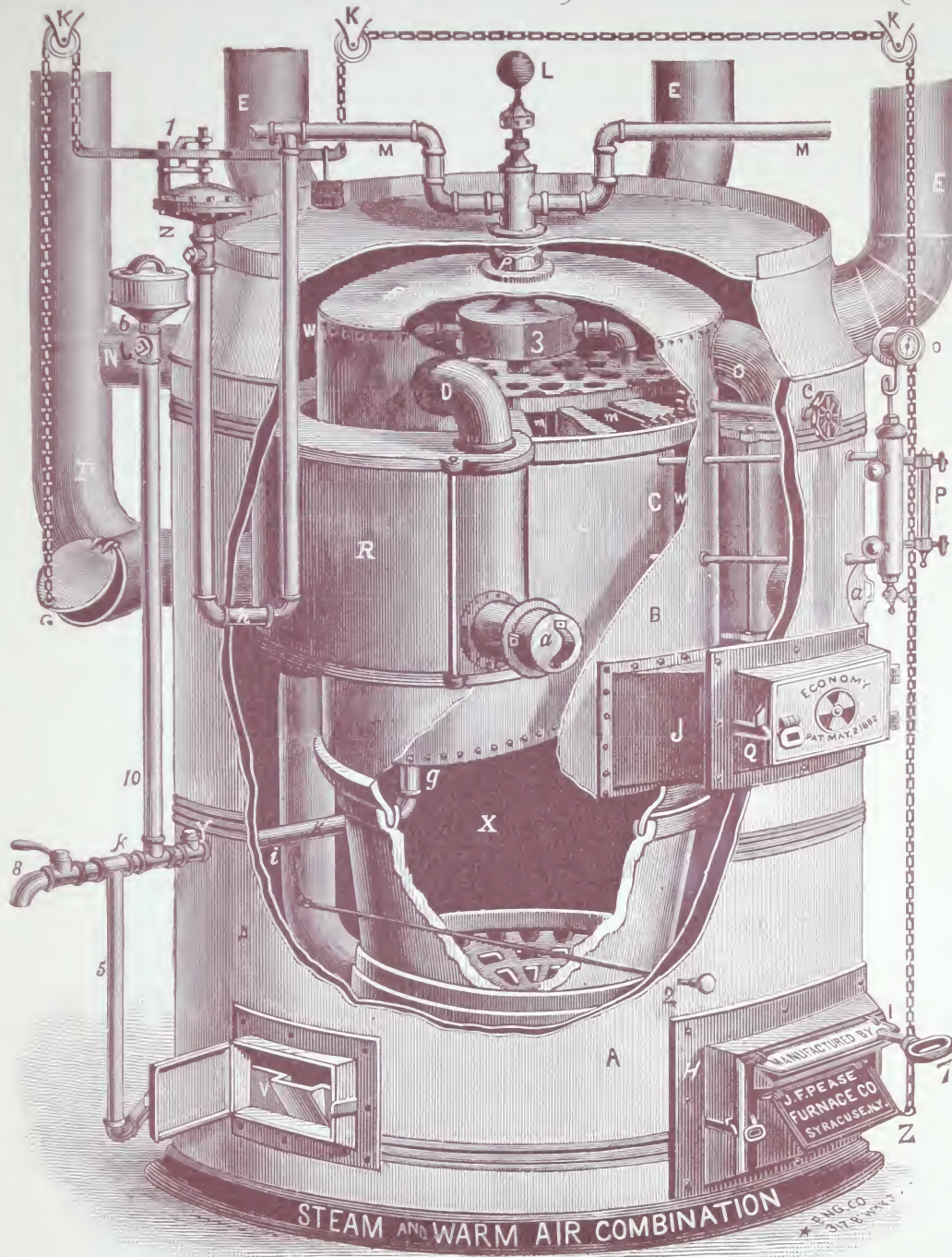
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This engraving illustrates our "Combination Heater," with a portion of Outer Casing, "Dome and Fire Pot broken away to show internal construction and working of the respective parts.



The quality of heat produced cannot be equalled by any other apparatus. We also make this Heater to set in brick.

FOR HARD COAL.

Our Combination Heater is years in advance of anything on the market to-day.

It is the outcome of patient, careful thought to obtain best results in heating and ventilation.

Its good points appeal at once to the best judgment of thinking people.

This heater combines the best features of both "the steam" and "the warm air systems."

The same fire which produces the warm air generates the

steam and the greatest result from a given amount of coal is obtained.

It is not in any way complicated. The heat can be easily controlled to any temperature desired, and its freedom from gas and dust are all important features in its favor.

It has passed through five years' trial. Proves to be durable, economical, and in every way highly satisfactory to our many patrons, numbers of whom have written us strong letters of endorsement regarding the merits of the Heater. A few of these letters we print in our catalogue.

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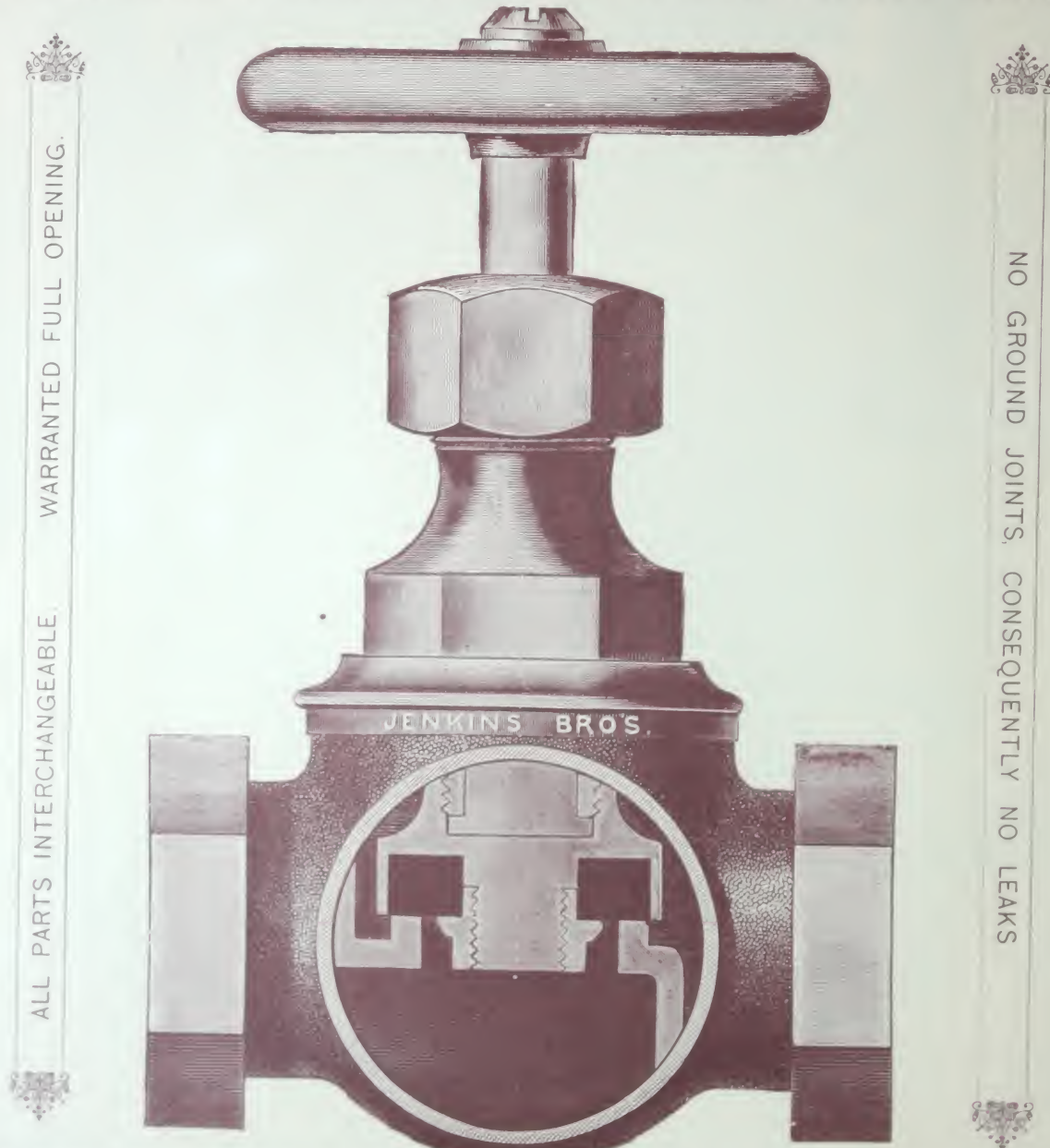
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MANUFACTURED OF THE BEST STEAM METAL.

A PERFECTLY TIGHT VALVE AT A REASONABLE PRICE.



THE JENKIN'S DISCS used in these Valves, are manufactured under "1880 Pat.," and are the *only known elastic compound* that will withstand high pressure steam.

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To avoid imposition, see that valves are stamped Jenkins Bros. Send for new Valve List.

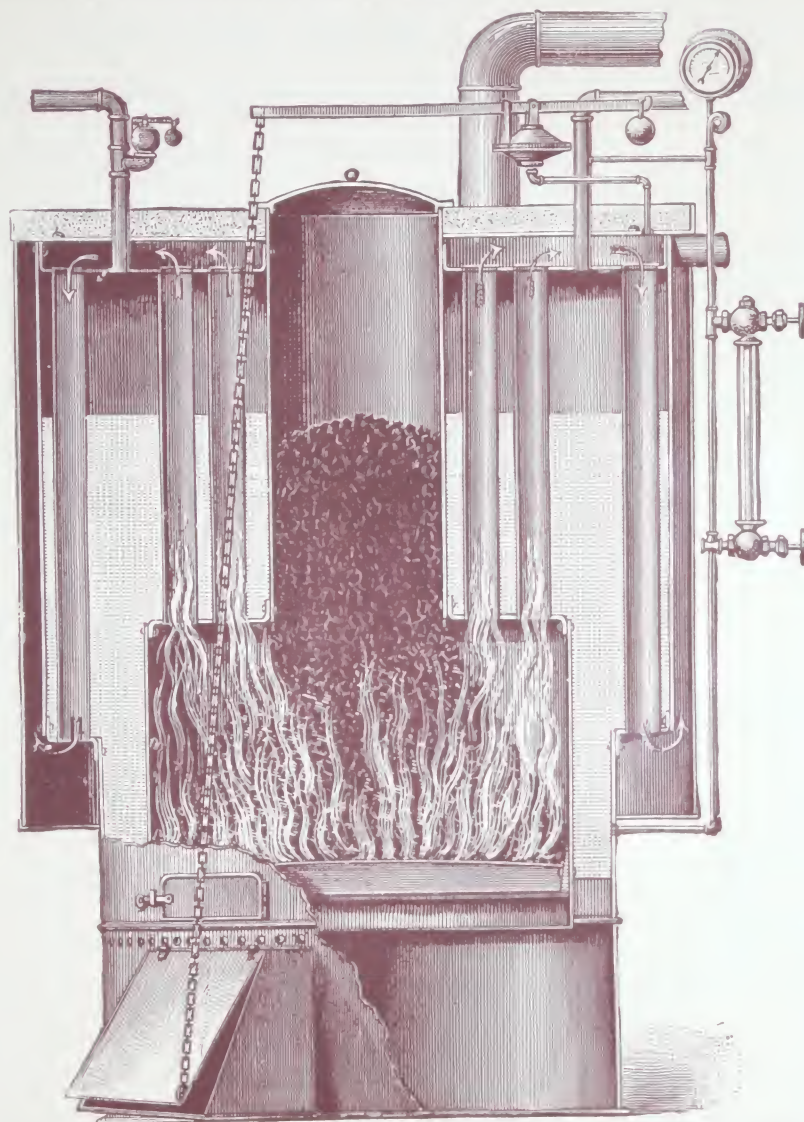
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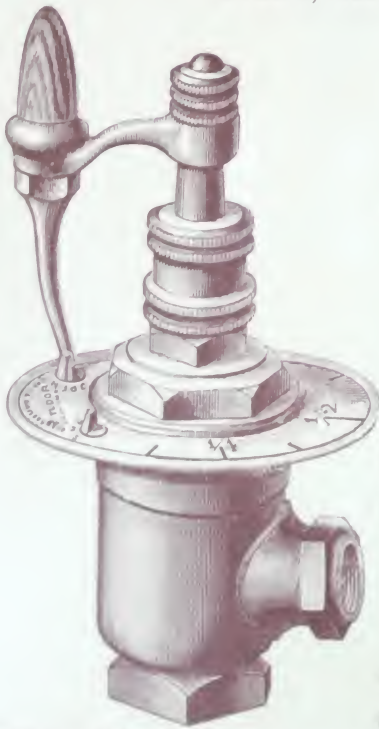
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CONTRACTOR FOR THE INSTALLATION OF ENTIRE PLANTS FOR
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VENTILATING FANS of great capacity and economy, the most powerful and efficient in use.

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This system is of great value in large works of ventilation, since it offers all the advantages of steam in extended distribution from a remote source, but without noise or special devices for returning the condensed water, while it avoids the cumbersome and sluggishness of hot water apparatus, yet gives the same mild heat with a quicker regulation.

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Mortimer Building, New York.
Trinity Church, Boston.
U. S. Court House, Albany.
Royal Insurance Co. Building, Chicago.
Mass. Hospital Life Ins. Co. Bdg., Boston.
Children's Hospital, Boston.

Homœopathic Hospital, Boston.
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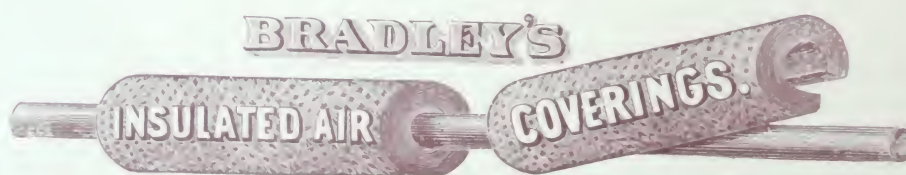
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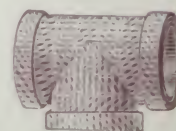
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Stops Radiation and Reduces Condensation, Insuring Dry Steam.

Made of Corrugated Wool Felting and Abestos Felting.



These coverings are made at the factory, ready for use, in sections three feet long, for all sizes of pipe, and weigh about one and one-third pound per square foot, surface measure. They can be applied by any workman to either hot or cold surface. They can be quickly removed and replaced when necessary without sustaining any damage. They are very light and elastic; they sustain no damage from contraction, expansion or shaking of pipes, and are not easily injured in transportation or handling.



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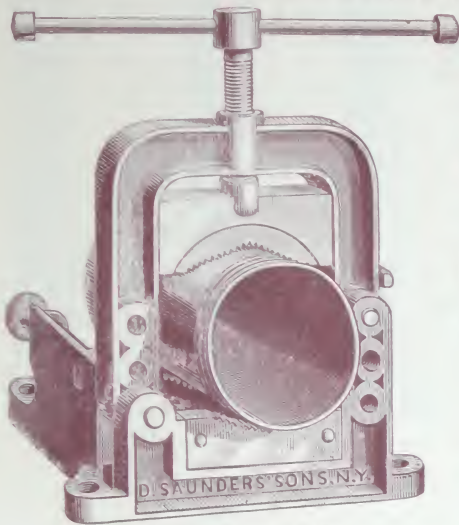
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CHICAGO.

114 N. Seventh St.,
ST. LOUIS.

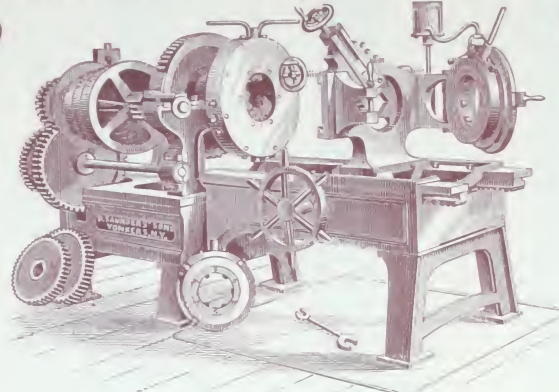
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Pipe Cutting, Threading and Tapping Machines, Hand Stocks and Dies for Pipe, Taps,
REAMERS, HAND PIPE CUTTERS, PIPE VISES, &c., &c.



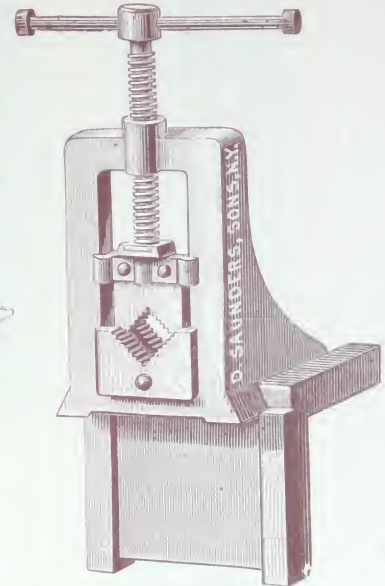
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Common Pipe Tongs.



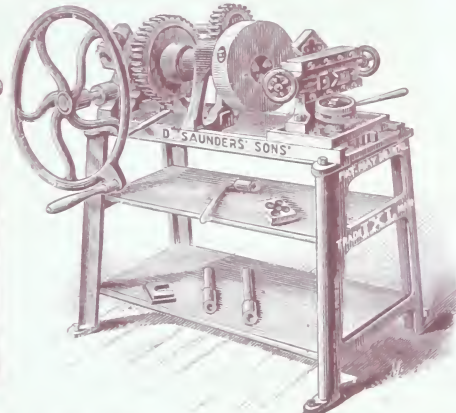
Angle Vise.



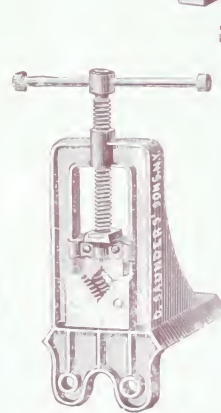
Tool Cutter, for
Pipe & Tube.



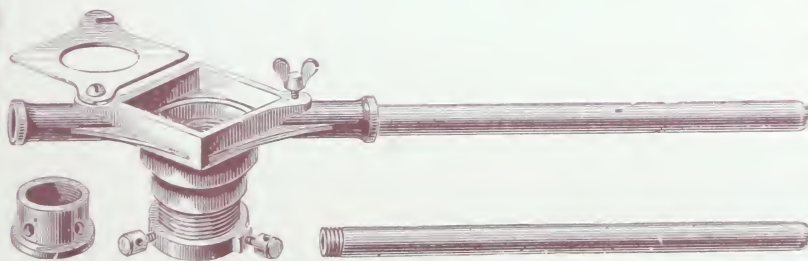
Swivel Vise.



I. X. L. Pipe Cutting & Threading Machine.



Malleable Pipe Vise.



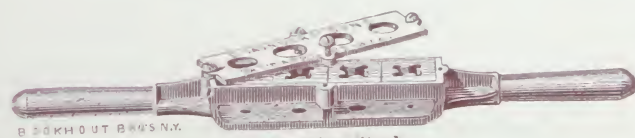
Hand Die Stock.



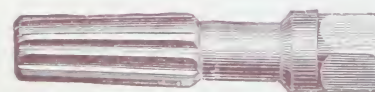
Tap.



Wheel Cutter.



Combination Stock.

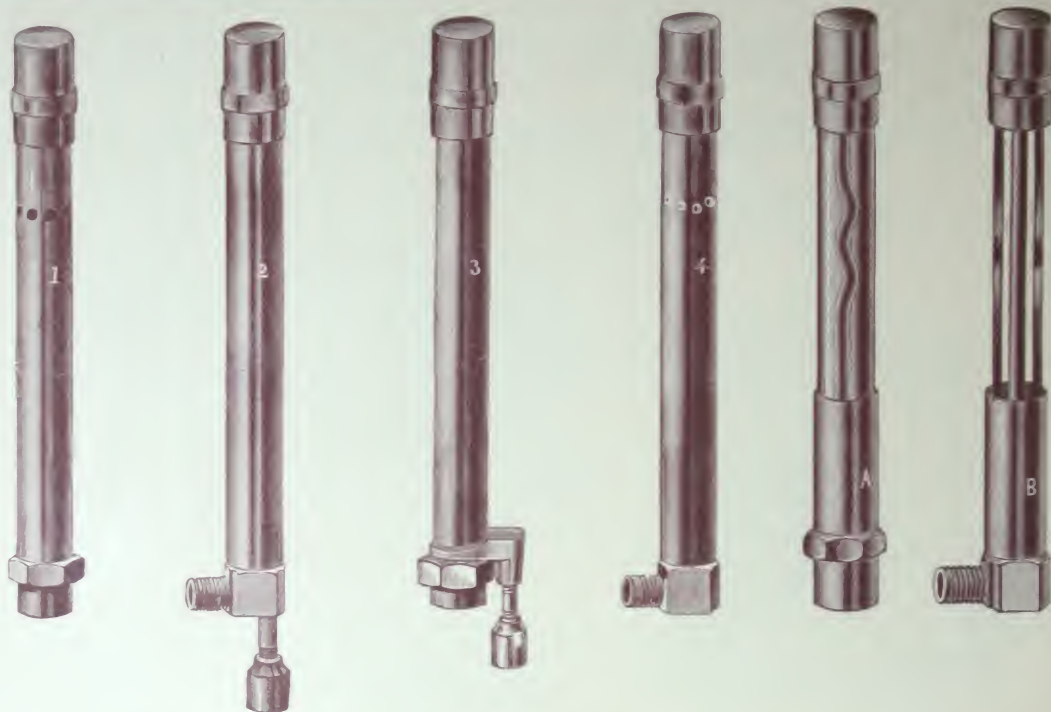


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	No. 1	2	3	4	A	B
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Plated, " - - -	1.30	1.40	1.40	1.40	1.40	1.40

Nos. 1, 4, A and B Have Evaporating Cups.

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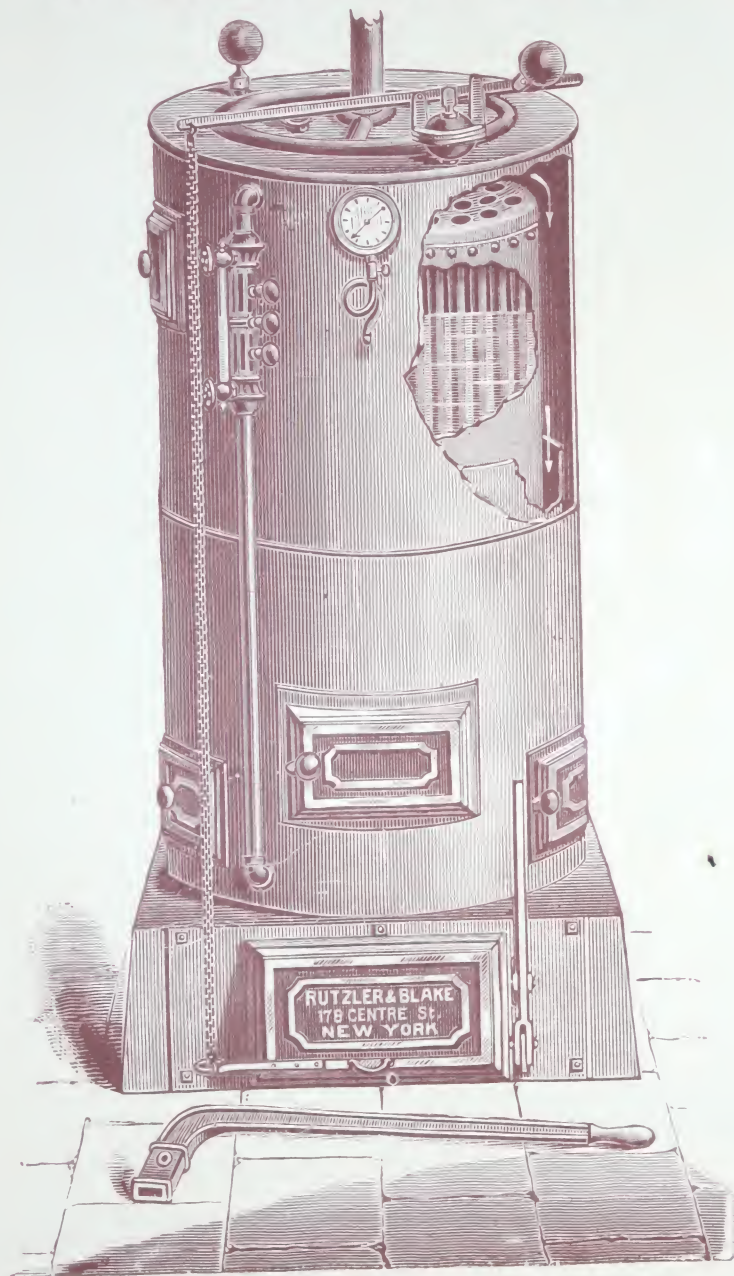
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We invite the correspondence of first-class houses throughout the United States, carry a very heavy stock of pipe and accessories, and can ship promptly at lowest freight rates to any desired point, and on application we can name prices that invariably inure to the benefit of our customers, and to our steady patrons we give in advance proposed market changes, thereby in many cases saving them from taking contracts at old prices.

For the benefit of architects and draughtsmen we append herewith our table of standard dimensions wrought iron steam pipe.

WROUGHT IRON WELDED TUBES, in Random Lengths, for Gas, Steam or Water.

1½ inch and below, Butt Welded, proved to 300 lbs. per square inch, Hydraulic Pressure. 1½ inch and above, Lap Welded, proved to 500 lbs. per square inch, Hydraulic Pressure.

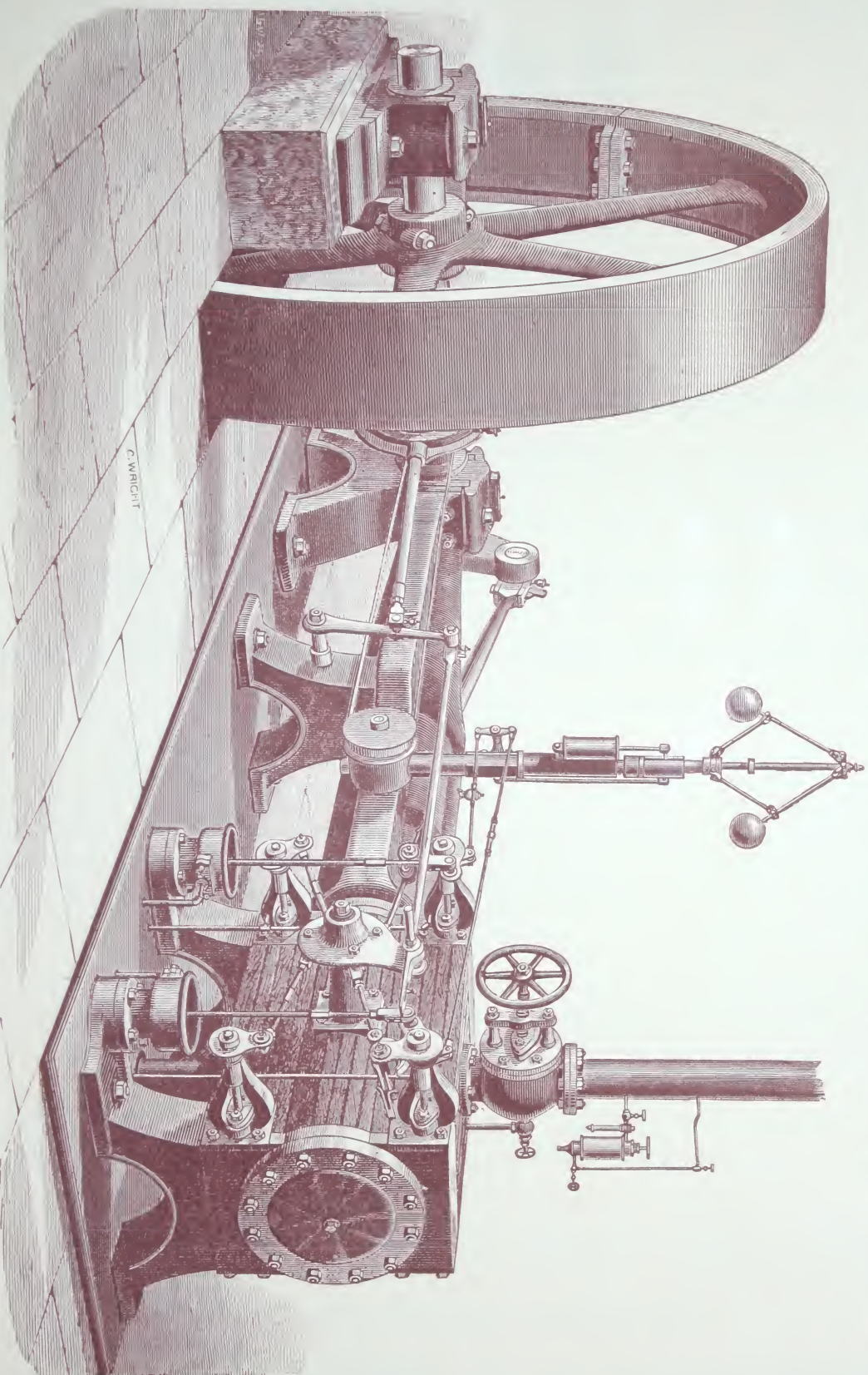
Table of Standard Dimensions issued by Edward Barr Co. (Limited.)

Inside Diameter. Nominal.	Price per foot, Plain.	Price per foot, Galvanized.	Actual Outside Diameter.	Thickness.	Actual Inside Diameter.	Internal Circumference.	External Circumference.	Length of pipe per square foot of Inside Surface.	Length of Pipe per square foot of Outside Surface.	Internal Area.	External Area.	Length of Pipe containing One cubic foot	Weight per foot of Length	No. of Threads, per inch of screw.	Taper of Threads per inch of screw.
INCH.	\$ C.	\$ C.	INCHES	INCHES	INCHES	INCHES.	INCHES.	FEET.	FEET.	INCHES.	INCHES.	FEET.	LBS.		INCH.
½	03 ½	...	0.405	0.068	0.270	0.848	1.272	14.15	9.44	0.0572	0.129	2500.	0.243	27	1-32
¾	03 ½	05	0.54	0.088	0.364	1.144	1.696	10.50	7.075	0.1041	0.229	1385.	0.422	18	1-32
1	03 ½	05 ½	0.675	0.091	0.494	1.552	2.121	7.67	5.657	0.1916	0.358	751.5	0.561	18	1-32
1 ¼	04 ½	06	0.84	0.109	0.623	1.957	2.632	6.13	4.502	0.3048	0.554	472.4	0.845	14	1-32
1 ½	06	08	1.05	0.113	0.824	2.589	3.299	4.635	3.637	0.5333	0.866	270.	1.126	14	1-32
2	08	10 ½	1.315	0.134	1.048	3.292	4.134	3.679	2.903	0.8627	1.357	166.9	1.670	11 ½	1-32
2 ½	11	14	1.65	0.140	1.330	4.335	5.215	2.768	2.301	1.496	2.164	96.25	2.258	11 ½	1-32
3	21	24	1.9	0.145	1.611	5.061	5.969	2.371	2.01	2.038	2.835	70.65	2.694	11 ½	1-32
3 ½	26	30	2.375	0.154	2.067	6.494	7.461	1.848	1.611	3.335	4.430	42.36	3.667	11 ½	1-32
4	42	47	2.875	0.204	2.468	7.754	9.032	1.547	1.328	4.783	6.491	30.11	5.773	8	1-32
4 ½	55	62	3.5	0.217	3.067	9.636	10.996	1.245	1.091	7.388	9.621	19.49	7.547	8	1-32
5	67	83	4.0	0.226	3.548	11.146	12.566	1.077	0.955	9.887	12.566	14.56	9.055	8	1-32
5 ½	83	1 00	4.5	0.237	4.026	12.648	14.137	0.949	0.849	12.730	15.904	11.31	10.728	8	1-32
6	1 00	1 25	5	0.247	4.508	14.153	15.708	0.848	0.765	15.939	19.635	9.03	12.492	8	1-32
6 ½	1 20	1 50	5.563	0.259	5.045	15.849	17.475	0.757	0.629	19.990	24.299	7.20	14.564	8	1-32
7	1 50	2 00	6.625	0.280	6.065	19.054	20.813	0.63	0.577	28.889	34.471	4.98	18.767	8	1-32
7 ½	2 00	...	7.625	0.301	7.023	22.063	23.954	0.544	0.505	38.737	45.663	3.72	23.410	8	1-32
8	2 25	...	8.625	0.322	7.982	25.076	27.096	0.478	0.444	50.039	58.426	2.88	28.349	8	1-32
8 ½	3 00	...	9.688	0.344	9.001	28.277	30.433	0.425	0.394	63.633	73.715	2.26	34.077	8	1-64
9	4 00	...	10.75	0.366	10.019	31.475	33.772	0.381	0.355	78.898	90.762	1.80	40.641	8	1-64
10	5 00	...	12	0.388	11.224	35.261	37.699	0.340	0.318	98.942	113.097	1.455	47.727	8	1-64
11	6 00	...	13	0.410	12.180	38.264	40.840	0.313	0.293	116.535	132.732	1.235	54.655	8	1-64
12	7 00	...	14	0.432	13.136	41.268	43.982	0.290	0.273	134.582	153.938	1.069	61.940	8	1-64
13	8 00	...	15	0.454	14.092	44.271	47.124	0.271	0.254	155.968	176.715	.923	70.008	8	1-64
14	9 00	...	16	0.476	15.048	47.274	50.265	0.254	0.238	177.867	201.062	.809	78.269	8	1-64
15	10 00	...	17	0.498	16.004	50.278	53.407	0.238	0.225	201.162	226.980	.715	87.120	8	1-64
16	18	0.520	16.960	53.281	56.548	0.225	0.212	225.907	254.469	.638	96.379	8	1-64
17	Prices on	...	19	0.542	17.916	56.284	59.690	0.213	0.201	252.006	283.529	.571	106.067	8	1-64
18	applica-	...	20	0.564	18.872	59.288	62.832	0.202	0.191	279.720	314.160	.515	116.214	8	1-64
19	tion.	...	21	0.586	19.828	62.291	65.973	0.192	0.183	308.771	346.361	.466	126.760	8	1-64
20															

For sizes above 10 inch we would recommend buyers to use Flanges instead of Screw Ends.

Agents for the Sale of Bundy Patent Radiators,

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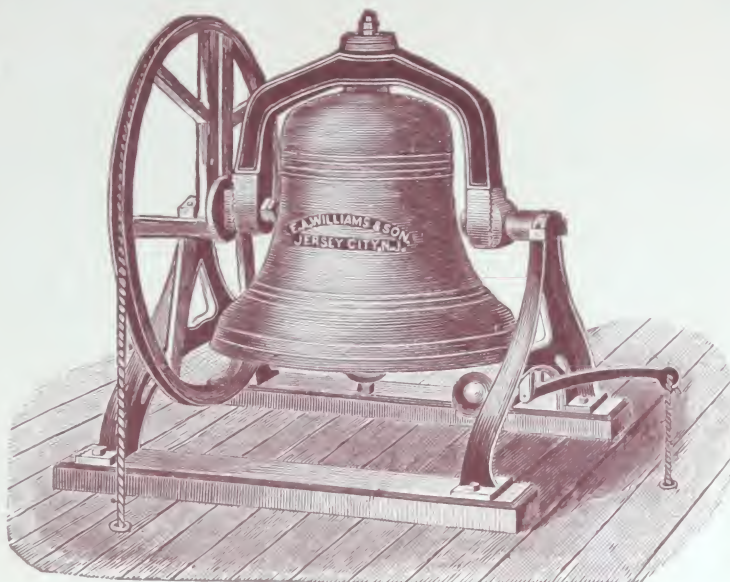
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OPERATED BY HAND OR POWER.



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PATENT, WROUGHT IRON OR STEEL.



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where the tubes come in con-
tact with the fire unsupported.

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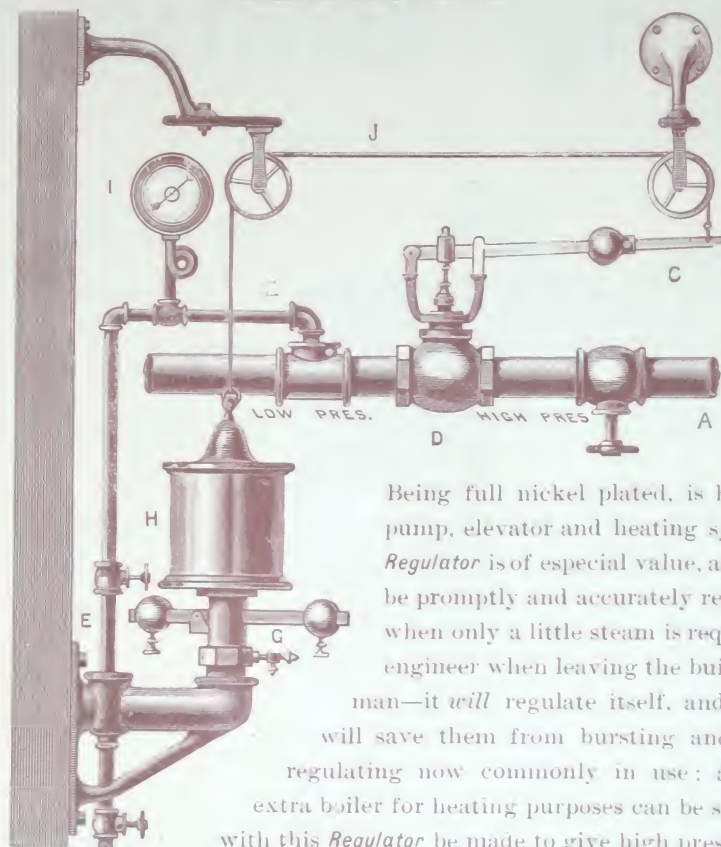
I also make the boilers in
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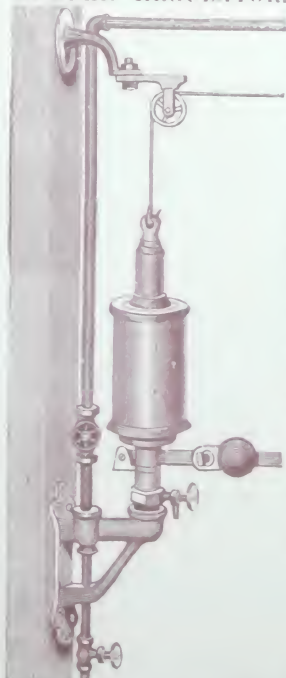
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To the main steam pipe, *A*, leading from the boiler, is attached a balanced valve, *D*, which is opened and closed by a weighted lever, *C*, controlled by a wire rope, *J*, which passing over pulleys is connected with the Regulator, *H*. The pressure desired is regulated by the small balls on the lever, *G*. At starting the valve *D* is wide open. Steam passing through at full boiler pressure, back pressure will begin as soon as the most remote radiator is reached, and so on through each intermediate radiator until the connecting point *E*, is reached, indicating on the gauge *I*, the heat or pressure required. This is obtained by the connecting pipe *E*, which admits steam to the Regulator being placed on the low pressure end of valve *D*. As soon as the desired pressure is indicated, the cylinder of the regulator rises, and so shuts off the valve *D*, that a uniform pressure or heat is obtained; the regulator varying up or down as the pressure increases or diminishes; and so sensitive is this apparatus in its operation that there is scarcely a point of deviation.

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THE H. B. SMITH MACHINE CO., of Philadelphia, say: "We have Kellam's Pressure Regulator on the steam pipes used for heating our building, and take pleasure in certifying to its efficiency. The pressure of steam in the pipes and consequently the heat can be regulated with great accuracy. One very important feature of this machine is that it admits of a reduction of the steam pressure at night, so there will be only circulation enough to keep the pipes warm, which prevents the cracking and snapping through the radiators when the pressure is increased, as is the case under the modes now in use. It is undoubtedly the best regulator in the market." We also refer to Mr. James Harkins, chief engineer at the "Knickerbocker," 28th Street, and 5th Avenue, and very many others who have them in use.

THE DAMPER REGULATOR

Is similar in its construction and operation, and combines the minimum of friction with the maximum of durability. Will work closer to variation of steam than any other regulator on the market: on this point we challenge the world. Is not affected by intense heat or cold, and is the greatest fuel saving machine ever invented.

Messrs. D. Trainer & Sons, Trainer, Del. Co., Pa., operating several large mills, offered in the *Phila. Ledger* a prize of \$100.00 cash, for the most perfect damper regulator. The *Kellam Damper Regulator* was put in competition with all other makes. Under date of August 5th, 1885, Messrs Trainer & Sons write; *Dear Sirs*:—"The Kellam Regulator on Mill No 1 is working to our entire satisfaction. Please place one of the same size on Mill No. 2 at your earliest convenience. We will give order for one on Mill No. 3 shortly. We consider the One Hundred Dollar Prize offered by us for the best Damper Regulator to be well earned by your machine."

Both of those machines sent out on thirty days trial and taken back without charge if they fail to give entire satisfaction. For further information, circulars, prices, etc., address

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